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MICHIGAN'S EXPERIENCE WITH PUBLIC ACT 198

by ROBERT J. KLEINE, *Director, Office of Revenue and Tax Analysis, Department of Management & Budget, State of Michigan*

Michigan provided few financial incentives to attract and hold business until 1974, when several job development programs were enacted. The most important of these was Public Act 198, the Plant Rehabilitation and Industrial Development Districts Law. This legislation gives communities the authority to grant property tax exemptions to new manufacturing firms and to firms that rehabilitate obsolete facilities. For the former, the exemption amounts to 50 percent of the normal property tax liability incurred each year for up to 12 years. For the latter, the obsolete property's assessment is frozen for up to 12 years, effectively exempting the firm from property taxes on the improvements. Certain restrictions are placed on the use of the act for projects that transfer employment within the state or do little to create or retain jobs. However, these restrictions are largely ineffective.

Public Act 198 was a product of the difficult economic times of the mid-1970s, a period during which the Michigan unemployment rate reached 14 percent. Although the state's unemployment problems were largely cyclical, it was viewed by many as having an inhospitable business climate, in part because of high taxes. Business and government leaders in Michigan were convinced the state could not compete for jobs without financial incentive programs for business. The result was Public Act 198 and several other job development programs.

In the first few years that Public Act 198 has been in effect (1974–1978), 1,084 industrial projects have received tax benefits under its provisions. These projects were expected to be completed with a total capital investment of more than $4.2 billion. These investments have resulted in the creation of 62,000 jobs and the retention of 71,000 (see Table 1). How much credit the act should be given for these jobs has been much debated.

TABLE 1
Summary of Approved Projects under Public Act 198 of 1974
(by year of approval)

Year	*Number of applications*	*Expected jobs retained*	*Expected jobs created*	*Exempt project cost*
1974	4	5,300	340	$ 64,162,943
1975	117	14,049	9,795	410,346,793
1976	191	10,272	10,777	436,678,889
1977	305	17,740	18,799	1,241,419,566
1978	466	23,433	22,436	2,083,115,932
Total	1,084	70,794	62,147	$4,235,724,123

SOURCE: Office of Economic Development, Michigan Department of Commerce.

Supporters of the act argue that it offers several benefits.

1. It reduces a firm's tax bill, making it more profitable to expand now rather than later and to locate in one place rather than another. This becomes of paramount importance when cost differentials between competing sites are small.
2. It not only grants a tax exemption but also demonstrates the state's commitment to economic growth and the community's desire to cooperate with industry.
3. In practice, the best that communities in Michigan can do to attract industry is to be competitive with communities in other states. The act accomplishes this and allows exemption decisions to be made at the local level.

Opponents claim several disadvantages.

1. The act offers an unnecessary tax exemption resulting in lost public revenue because industrial expansion would take place anyway. In deciding between different states, other cost and locational factors far outweigh the influence of tax exemptions.
2. The act fosters unnecessary competition among neighboring communities.
3. Tax abatements are likely to be most useful to small companies, yet the benefits go mainly to larger firms.

The long history of state and local tax incentives has provided ample opportunity for close observation and study of the effectiveness of such programs. The weight of evidence indicates that tax and financial incentives do not affect industrial location decisions. However, there are inherent problems in the methodology used for evaluation, and it is unlikely that anyone will be able to provide conclusive evidence in the near future. Tax incentives continue to proliferate, however, and many business and governmental decision makers continue to believe incentives do make a difference or, at least, are needed to counteract incentives provided by other states.

Michigan has undertaken several studies to determine the effect of Public Act 198 on local communities and its effectiveness in influencing business location decisions. None has provided a definitive answer, but the results do shed some light on the program.

A RECENT SURVEY

Earlier this year, the Michigan Department of Commerce surveyed the industrial firms participating in the Public Act 198 program to determine how incentives such as tax abatements influence plans to expand or build a plant. A questionnaire was mailed to 469 companies that had received tax benefits under the act for at least one year. By the closing date, 251 questionnaires had been returned — a response rate of 54 percent.

The first major finding was that, compared with all manufacturing firms in Michigan, very small companies are underrepresented among users of the act (see Table 2). Firms employing fewer than 100 workers constitute 89.8 percent of all manufacturing firms in Michigan, but only 53.5 percent of the users of the act. However, the number of small companies participating in the program has increased in the past two or three years. (Very small companies were not a target of the act.)

TABLE 2
Public Act 198 Users, by Size of Firm

Number of employees	*Respondents*		*Total manufacturing businesses in Michigan (percentage)*
	Number replying	*Percentage participating*	
1– 19	33	13.4	62.7
20– 99	99	40.1	27.1
100–249	63	25.5	5.9
250–999	40	16.2	3.3
1,000 and up[a]	12	4.9	1.0
Total	247	100.0	100.0

Source: Office of Economic Development and Michigan Employment Security Commission.

[a] Four firms did not provide data.

A second major finding was that more than 80 percent of the users of the act have been in business in Michigan more than 10 years; more than 50 percent for more than 25 years. This, of course, indicates the act has been used primarily to assist expansion. More important, it suggests the program is benefiting the mature, stable businesses that are unlikely to relocate or expand in another state. In other words, most of these firms probably would have expanded in Michigan without a tax incentive. However, the survey also indicated that newer businesses are making increasingly greater use of Public Act 198. In 1975, 9 percent of the users surveyed had been in business less than 10 years; in 1977, 22 percent fell in this category.

A third interesting finding was that about 60 percent of the users of the act had not considered another plant site, either in Michigan or in another state. This would seem to indicate the tax incentive did not influence their investment decisions. However, about 39 percent of the firms had considered a site in another state. It is possible that many of these would have relocated or expanded outside Michigan without the act.

A fourth finding is illustrated in Table 3, which indicates that the most critical business location issue is the cost of workers' compensation. Companies reported this as the most likely reason to cancel their plans to expand or build in Michigan. The survey also revealed that although about 15 percent of Public Act 198 users would build in Michigan without an incentive, about 20 percent would cancel their plans. More than twice as many jobs were created by firms that would cancel their expansion

TABLE 3
Effect of Incentives and Other Factors on the Expansion Plans of Public Act 198 Users

	We would build on schedule anyway	*We would reconsider building*	*We would cancel our plans*
If the Single Business Tax were replaced by the former system of corporate income taxes, franchise fees, inventory property taxes, and so forth	46.6%	41.0%	4.0%
If a state-sponsored employment training program were not available	75.7	13.5	0.4
If special property tax exemptions for building (or rehabilitating) a plant were not offered	15.5	56.2	20.3
If your unemployment insurance costs continue to rise as they have in the past	9.2	45.4	37.8
If your workers' compensation costs continue to rise without legislative reform	6.0	43.0	43.8

Source: Office of Economic Development, Michigan Department of Commerce.

without the act than by those that would build anyway. Expansion also may be affected by the availability of tax exemptions. Of all the firms considering expansion in the next year, 26 percent stated they would cancel their plans without the act, and more than 80 percent of the firms that would cancel if no tax exemptions were offered were thinking of expanding during the next five years. Also of interest is the finding that fewer than one-third of the firms indicating they would build without a property tax exemption had considered building in another state, whereas more than half of those that stated they would cancel their plans without a tax incentive had considered locating in another state.

The survey also found that the act was the principal incentive program that encouraged firms to locate or expand in Michigan (see Table 4). This result could have been predicted given the wording of the question. All that is measured is the importance of the act compared with other business incentives. Given that it is by far the major tax incentive offered in Michigan, its advantage over the other incentives is not surprising.

Finally, the survey found that reforms in the workers' compensation and unemployment insurance systems were top priorities, whereas retention of Public Act 198 was considered much less important by business. Only 11 percent of the firms mentioned tax incentives, a surprisingly low figure (see Table 5).

TABLE 4

Impact of Incentives on the Decision by Public Act 198 Users to Locate or Expand in Michigan

	This would primarily encourage location there	*This would somewhat encourage location there*	*This would not encourage location there*
If the site is in a certified industrial park	14.3%	45.8%	30.3%
If the community has an active industrial development corporation or is otherwise actively involved in attracting and cooperating with industry	35.5	45.8	8.8
If financing through tax-free industrial revenue bonds is available	47.4	33.5	9.6
If a special property tax exemption for building (or rehabilitating) a plant is available	64.9	25.1	1.6
If site improvements (roads, utilities, and so forth) are offered by the community	52.2	35.9	3.2
If industrial land is available at relatively low cost	55.4	33.5	2.8
If energy utilities have a record of uninterrupted supply to industrial customers	59.4	28.7	3.6

SOURCE: Office of Economic Development, Michigan Department of Commerce.

The Department of Commerce concluded from the survey that

> the P.A. 198 tax exemption program in Michigan has been one of the most effective public programs in creating and retaining jobs in the state. Without this tax incentive, Michigan would have lost 10,000 to 34,000 [new] jobs and 15,000 to 40,000 existing jobs.[1]

AN EARLIER STUDY

An earlier unpublished study by the Department of Commerce covering the 1974–1977 period made several noteworthy findings.

1. The most striking aspect of a geographical survey of Public Act 198 is the noticeably high rate of use in southwestern Michigan. Although that area has only 25 percent of the state's manufacturing establishments, almost 62 percent of the exemptions granted were in that region. The area is experiencing relatively rapid economic development, but it is not clear whether the act is contributing to this growth or is being used as a result of the growth. It is likely that the tax incentive is an added bonus for firms considering expansion in the area, rather than a driving force for accelerated development. A survey of industrial developers in the region confirmed the impression that communities in southwestern Michigan have a sound basis for continued expansion (available land, relatively low wage rates, a large and productive labor force, good access to markets, and a high quality of life) and use the state's incentive program effectively. The high rate of use can be attributed largely to the presence of well-trained, well-informed, and professional development organizations in these communities.

2. Although the developers interviewed were generally enthusiastic about the act, neither their comments nor the empirical data give the impression that the act by itself has had a substantial effect on the rate of investment in southwestern Michigan or elsewhere in the state.

TABLE 5

What Should State Government Do to Encourage Business Expansion and Location?

		Percentage
1.	Reform workers' compensation laws	62.9
2.	Reform unemployment insurance laws	52.2
3.	Keep Public Act 198—provide tax incentives	10.8
4.	Reduce taxes	10.4
5.	Reform the Single Business Tax	10.0
6.	Reduce government regulation and paperwork	8.8
7.	Reduce unionism and union influence in government	4.8
8.	Exercise fiscal responsibility—cut government spending	4.4
9.	Improve product liability laws	4.0
10.	Provide low cost revenue bonding financing	3.2

SOURCE: Office of Economic Development, Michigan Department of Commerce.

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.1	41.8	41.4 (July)
Average weekly hours, U.S.	40.3	40.4	40.0 (July)
Average hourly earnings, Michigan ($)	8.21	8.76	8.70 (July)
Average hourly earnings, U.S. ($)	6.17	6.66	6.71 (July)
U.S. motor vehicle production (units)	818,672	796,470	582,982 (Aug.)
Michigan electricity usage (mil. kwh.)	5,741	6,316	5,779 (Apr.)
Industrial (mil. kwh.)	2,766	2,961	2,729 (Apr.)
Residential (mil. kwh.)	1,742	1,943	1,741 (Apr.)
Raw steel production:			
Michigan (000 net tons)	978	981	968 (July)
United States (000 net tons)	11,388	12,230	11,821 (July)
Consumer price index (1967 = 100)			
Detroit area	194.6	215.4	219.5 (July)
United States	196.7	233.1	218.9 (July)
U.S. wholesale price index (1967 = 100)	210.7	233.1	236.6 (July)
Michigan farm prices received index (1967 = 100)	201	229	233 (July)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 7 Months: 1978 and 1979

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	38,186	53,056	+ 39	53,398	46,082	− 14	91,584	99,138	+ 8
Battle Creek	11,621	16,332	+ 41	17,429	24,000	+ 38	29,050	40,332	+ 39
Bay City	5,924	5,426	− 8	9,993	8,786	− 12	15,917	14,212	− 11
Detroit	461,964	625,127	+ 35	628,814	691,582	+ 10	1,090,778	1,316,709	+ 21
Flint	44,412	35,020	− 21	59,017	57,098	− 3	103,429	92,118	− 11
Grand Rapids	89,654	129,275	+ 44	119,467	116,492	− 2	209,121	245,767	+ 18
Jackson	8,836	13,553	+ 53	14,203	10,876	− 23	23,039	24,429	+ 6
Kalamazoo-Portage	11,704	23,492	over 100	50,046	41,071	− 18	61,750	64,563	+ 5
Lansing-East Lansing	44,474	52,639	+ 18	71,805	100,969	+ 41	116,279	153,608	+ 32
Muskegon-Norton Shores-Muskegon Heights	16,545	12,156	− 27	19,301	17,344	− 10	35,846	29,500	− 18
Saginaw	52,495	20,800	− 60	31,773	34,101	+ 7	84,263	54,901	− 35
Michigan	903,720	1,127,677	+ 25	1,408,043	1,493,146	+ 6	2,311,763	2,620,832	+ 13
United States	25,290,343	29,258,891	+ 16	43,557,49	45,634,304	+ 5	68,847,792	74,893,195	+ 9

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing-East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon-Norton Shores-Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,080,687,000 and $636,442,000, respectively, or a decrease of 41 percent. U. S. figures for nonbuilding construction contracts were $23,847,270,000 and $26,447,719,000, or an increase of 11 percent. Total building and nonbuilding construction contracts declined 4 percent in Michigan and 9 percent nationally.

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A definitive conclusion cannot be reached that the act is not accomplishing its intended purpose, but the survey certainly cannot be viewed as testimony to its effectiveness.

3. No data are available on the number of applications disapproved at the local level, but it appears to be quite low. In the six western communities surveyed, not one request had been denied. In addition, only one of the exemptions provided relief for less than the maximum of 12 years. The inference is that most local governments are disposed toward granting abatement. Since the number of applications is increasing geometrically over time, one would expect continued tax exemptions in the interest of immediate expansion. The surrender of tax base has reached a very high proportion in some communities. The effects are not entirely evident at present, but seem potentially troublesome (see Table 6). Some local governments, such as Wayne County, and many school districts have begun to complain about the loss of revenue, and some have proposed that the state bear the costs of the exemptions.

TABLE 6

Communities in Which Exempt State Equalized Valuation Is 15 Percent of Total State Equalized Valuation: 1977

	Exempt from State Equalized Valuation	*Percentage of State Equalized Valuation of unit*[a]
Constantine (Village)	$ 49,368,250	80.5
Three Rivers	86,631,050	68.0
Milan	63,662,732	64.5
Charlevoix Township	24,500,000	55.1
Ypsilanti Township	252,436,968	45.1
Romulus	102,311,454	33.3
Everett Township	2,130,964	28.7
Bagley Township	15,875,000	27.9
Buena Vista Township	48,257,000	26.3
L'Anse (Village)	3,170,111	24.3
Albion	12,319,211	21.7
Manistique	4,124,256	21.3
Sparta (Village)	4,906,478	21.2
Allen Township	8,891,540	20.6
Filer Township	4,615,309	17.6
Vassar	3,162,309	17.4
Harbor Beach	4,653,534	17.2
Alma	8,891,540	16.9
Zeeland	7,370,706	16.5
Wyoming	72,854,871	16.3
Eau Claire (Village)	679,292	15.7

SOURCE: Office of Economic Development, Michigan Department of Commerce.

[a]Percentage of State Equalized Valuation of unit is calculated by dividing the equalized value of exempt facilities by the sum of total State Equalized Valuation and the State Equalized Valuation of these facilities. This figure is substantially lower than the ratio of exempt State Equalized Valuations to all other State Equalized Valuations. In Constantine, for example, the latter ratio would be $49,368,250 divided by $11,994,039 = 412 percent.

4. The principal beneficiaries of exemptions granted under the act are the automakers — 61.5 percent of the amount exempted went to the Big Three (see Table 7). A case can be made that a refusal to extend abatement to the Big Three would result in erosion of the state's economic base; but given the extent of the auto industry's existing investment in Michigan, there appears little chance of massive relocation. Table 8 indicates very nearly the same proportion of employment among the automakers for 1971–1973, before the act was passed, as for the next four years. Despite the importance of the auto industry to Michigan, one can question the wisdom of expending such benefits on these companies, particularly in light of the state's need to diversify its industrial base.

TABLE 8

Percentage of Total Corporation Employment in Michigan by the Big Three: 1971–1977

	Chrysler	*Ford*[a]	*General Motors*
1971	57.6	53.4	44.4
1972	58.7	53.7	44.6
1973	58.5	55.1	43.9
1974	57.5	54.9	44.3
1975	58.4	55.7	44.4
1976	60.6	54.9	44.6
1977	60.5	53.8	44.9

SOURCE: *Michigan Statistical Abstract* for 1978, p. 857.

[a]Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

5. Even assuming the local fiscal effects of the act are not deleterious, it must be kept in mind that tax abatement is not costless. The combined effects of rising municipal costs and restrictions on the property tax base (particularly since the passage of the Headlee tax limitation) may require shifting part of the tax burden from users of Public Act 198 to residential property owners and nonexempt businesses. For example, in Detroit the share of property taxes paid by homeowners increased from 45.5

TABLE 7

Summary of Exemptions Granted to the Automakers: 1974–1977

	Number of projects (new/rehab.)	*Dollar amount exempted*	*Percentage of all dollars exempted*	*Jobs created*	*Percentage*	*Jobs created*	*Percentage*
Ford	4 (4/0)	350,100,000	16.26	0	–	4,065	10.25
GMC	18 (16/2)	849,696,409	39.47	12,100	25.55	14,041	35.36
Chrysler	3 (1/2)	124,935,602	5.80	8,170	17.25	434	1.09
Total	25	1,324,732,011	61.54	10,270	42.79	18,540	46.69

SOURCE: Office of Economic Development, Michigan Department of Commerce.

percent in 1973 to 50.9 percent in 1978. The most evident fiscal effect of the act, however, is the increase in school aid payments as a result of the removal of exempt industrial facilities from the assessment rolls.

6. Finally, employment effects are not evident. Certainly, new facilities will create jobs, but since it cannot be known with any degree of certainty whether investment covered by this act would have occurred in its absence, it is not known how many jobs can be attributed directly to the act. Renovation of plants results in retention of jobs, although not necessarily at the prerehabilitation level.

STATE AND LOCAL FISCAL EFFECTS

In 1978, in accordance with a requirement of a 1977 public act,[2] the Michigan Department of Commerce prepared a report on the impact of Public Act 198 on three Michigan communities. More than $96 million in property (state equalized valuation) is, or will be, effectively exempted from all property taxes as construction is completed. Ypsilanti Township has 45 percent of its tax base exempted under the act; Menominee, 14 percent; and Grand Rapids, 2 percent. Upon completion of the projects, more than $5 million in tax revenues will be forgone by all the taxing districts involved. This amounts to $600 of forgone tax revenue annually for each job created.

None of the local officials expressed concern about lost revenue as a result of the act. They believed that since new industrial expansions received tax exemptions, nothing was taken away from the current tax base, and potential tax revenue was treated as forgone for 12 years in order to realize economic growth now.

In the communities studied, the cost to the city or township of providing services to industry amounts to no more than 15 percent of the property taxes paid. Industrial property, especially in areas such as Menominee and Ypsilanti Township, where it is expanding, effectively subsidizes services provided to residents. Under Public Act 198, a new facility reduces this subsidy but still contributes 70 percent of its tax levy to the community for other services. The effective subsidy, therefore, holds down millage rates and makes it profitable for the community to solicit industrial development, even at one-half the normal tax rate.

Induced population growth attracted by new jobs in industry will tend to negate the subsidy's effect. This is because residents are relatively more expensive to service than is industry, which often supplies its own security force and handles its own waste disposal and fire control.

The study also concluded that industrial and commercial properties enhance the fiscal strength and stability of the local communities due to the tax subsidy they contribute after deducting service costs. The amount of this subsidy in the three communities amounts to about $2.4 million, even with Public Act 198 exemptions. In Grand Rapids, the 1,500 new jobs created by the act will produce about $130,000 in income tax revenue, which more than offsets the forgone property tax revenue. In Ypsilanti Township and Menominee, forgone tax revenues amount to less than 3 percent of the budget.

Most school districts that levy up to 30 mills do not lose any revenue as a result of exemptions under the act because they are compensated by the state school aid formula, which equalizes operating revenues per pupil up to the first 30 mills of tax levy. School districts that do not qualify for direct state aid do receive the industrial facilities taxes (IFT) collected from exempt industries by the school tax levy. Districts that levy more than 30 mills receive directly the IFT collected by that portion of their levy above 30 mills. In Grand Rapids, school districts forgo about $37,000 in potential tax revenue annually. In Ypsilanti Township, school districts forgo about $730,000 annually due to Public Act 198 exemptions. In at least one case, however, declining school enrollment was seen as a more serious problem because of the subsequent loss of state aid. Industrial growth was viewed as one way to attract residents and ensure a rising enrollment.

To summarize, the study reached several conclusions.

1. Public Act 198 has encouraged industry to expand and locate in Michigan. Without it, states such as Ohio would have a significant tax advantage over Michigan.

2. In areas in which the act has been used, local job growth has exceeded the state average. (However, the study did not attempt to determine job growth prior to passage of the act.)

3. Granting tax exemptions to industry under the act will not impair the fiscal strength or stability of the community. Industrial expansion is needed to hold down tax rates and reduce the tax burden on residents.

4. In cities with income tax, forgone property tax revenues are offset by income tax revenue generated by new jobs.

5. Most school districts are largely compensated by state aid for potential revenue lost through industrial exemptions.

Public Act 198 exemptions impose a significant cost on the state, as school aid payments are increased as a result of the decline in state equalized valuation in school districts in which tax abatements are granted. As Table 9 indicates, this cost has increased rapidly since 1974.

CONCLUSION

It is not possible to state categorically that Michigan's tax incentive program has been a major success or a failure. There is no question that Public Act 198 has had a positive psychological effect on businesses considering location or expansion in the state. Prior to its enactment, Michigan had few inducements to offer business. Most efforts were of a defensive nature, explaining to business that taxes were not very high, that the high rate of unionization did

TABLE 9
Cost to the State of Michigan of Public Act 198 Exemptions

Year	*Amount*
1974	$ 713,473
1975	3,830,947
1976	8,805,223
1977	20,265,287
1978	39,760,736

SOURCE: State Tax Commission, Michigan Department of the Treasury.

not hurt worker productivity, that government officials were not antibusiness, and that the weather was not that bad. Today, there are positive programs that can be used to sell Michigan as an industrial location.

There is no question that the act has helped attract and retain many businesses. The unanswered questions are: Has the program been worth the cost? And, could the forgone revenues have been used more effectively to create and retain jobs? For example, it is possible that tax credits (against the Single Business Tax) tied to workers' compensation and unemployment insurance costs, tax credits for new employees, subsidized loans, or a general tax reduction would be more effective in improving the Michigan business climate than is Public Act 198. However, alternatives to the act have never been examined. This is unfortunate. As its use has increased, there have been unsettling developments. First, an increasingly large share of total Michigan investment is receiving exemptions under the program, and the cost in forgone government revenue is escalating. As a result, many local officials are becoming concerned about the program and, as mentioned above, are suggesting that the state bear the full cost. There has been great reluctance on the part of local officials to deny exemptions, due in part to a fear they will lose business to another jurisdiction. Some businesses are not above resorting to corporate blackmail to achieve favorable tax treatment. State and local governments often are unable to resist such pressures; they grant tax breaks that they sometimes regret. As one observer has noted:

> The ability of industry to move easily from one place to another in search of higher profits is one of the worst problems facing states and cities today. Officials are often paralyzed by the knowledge of corporate mobility. They shy away from innovative tax or regulatory policies for fear that existing companies will leave or that others will boycott them. In fact, any attempt to stop or put a price on those businesses which abandon a plant and community has been attacked as bad public policy under the rationalization that such moves were motivated by the need for industrial efficiency and thus were good for the country as a whole.[3]

Legislation recently has been introduced in Michigan that would require businesses leaving a community to repay any tax or financial incentives received as an inducement for locating there. This legislation is unlikely to pass in the near future, but indicates a growing concern.

As use of the act expands in relation to total investment in Michigan, it will be more difficult for its advocates to claim the program is cost effective; the cost of the exemptions granted to businesses that would have expanded in Michigan anyway will begin to outweigh the economic gains from firms that were encouraged by the tax incentive to expand in the state. The result could be a reevaluation of the program in the near future.

Another development is the recent expansion of the exemption to cover commercial businesses (Public Act 255 of 1978). This was to be expected once nonindustrial businesses recognized the tax benefits being enjoyed by their industrial brethren. The new act was intended to encourage revitalization of downtown commercial districts, but efforts to limit it to those areas were not successful. There are restrictions, but they still will allow the use of the act in the suburbs, small towns, and rural areas. There are three reasons the use of this incentive should have been restricted carefully. First, its objective is to revitalize commercial districts in declining urban areas. Accordingly, commercial development in newly developed areas should not be encouraged. If fast-growing suburbs can grant the incentive, the bill actually will work against declining downtown areas. Second, the location of commercial establishments is more market oriented than the location of industrial concerns, which argues for restricting tax incentives in order to prevent marginally profitable facilities from being built. Third, the granting of tax abatement to selected firms constitutes tampering with market forces, which could result in an inefficient allocation and increased competition among existing firms.

Granting tax incentives to commercial facilities could be more costly than the industrial facilities exemption. Also, it is much less likely to encourage new investment and jobs, as the location decisions of commercial firms are much more dependent on market factors than are those of industrial firms.

Michigan's experience with tax incentives has indicated that incentives can be a useful tool for industrial development, but that they should be used carefully. Tax incentives, if they must be used, should be targeted to attract firms that will add to the economic stability and diversity of the state's economy. The granting of tax exemptions should not be automatic. A careful evaluation should be made of the likely effect of the incentive on the firm's location decision. The entire burden of granting an exemption should not be placed on local units. They should play the major role in the decision process, but the state also should be involved. School districts are largely reimbursed for costs associated with exemptions; however, other local units of government must bear full costs. A strong case can be made for changing the latter situation. Finally, incentives should be granted to commercial businesses only under restrictive conditions.

If carried too far, tax competition can weaken the financial position of state and local governments, making them even more dependent on the federal government. It can only be hoped that government officials will be more prudent in their use of tax and financial business incentives in the future.

CITATIONS

1. Office of Economic Development, Michigan Department of Commerce, "A Report on Companies Using the Plant Rehabilitation and Industrial Development Districts Law" (Lansing: 1979).
2. "The Plant Rehabilitation and Industrial Development Districts Law, Public Act 198 of 1974, An Evaluation of Its Use and Economic Impact on Three Communities in Michigan," Office of Economic Expansion, Michigan Department of Commerce, September 1978.
3. Lee Webb, "The Problem of Runaway Plants," Conference on Alternative State and Local Public Policies, *newsletter*, March 1977.

MICHIGAN STATISTICAL ABSTRACT

Fourteenth Edition, 1979

The attractions featured in the 1979 edition of the *Michigan Statistical Abstract* include an 18-page description of this state's economy published in about 1848. Another item of interest is the official version of "The Toledo War." Did you know that Alpheus Felch, our sixth governor, had served in that war?

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EFFECTS OF EXPORTS

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

The number of Michigan jobs directly and indirectly related to exports of manufactured products totaled 212,600 during 1976, according to a report just released by the Bureau of the Census. This figure represents 6 percent of total Michigan civilian employment in that year, making Michigan second only to Connecticut, for which the figure was 6.2 percent. Ohio was third (5.6 percent), Indiana fourth (5.5 percent). Nationwide, 3,452,100 jobs, or 4 percent of civilian employment, resulted from exports of manufactured products.

DIRECT EXPORTS

During spring 1977, all manufacturing establishments with 250 or more employees and selected establishments with fewer than 250 were asked by the Bureau of the Census to report the value of their direct exports to other countries during the previous year. Direct exports are products sent directly from the plant to another country or those known to have been exported, without further processing, through a broker or another intermediary. Because a vast number of small establishments did not have to report, the figures are well below the known volume of exports tabulated from shippers' export declarations. Also, a sizable volume of exporting occurs without the producer's knowledge. Northern hardwood, for example, might go by truck or rail to Minneapolis, thence to New Orleans by barge, and finally to Japan by ship.

The purpose of the plant survey was to develop estimates of the geographic origin of manufactured exports. The results were used to estimate U.S. export figures by state and industry. Also, they were adjusted to represent values, f.o.b., plant; that is, the value of the shipment at the plant, before transportation and other costs of getting it to the U. S. border were added.

More than $8 billion in direct exports originated in California factories. Michigan was second, with $6.9 billion, and Illinois third, with $6.7 billion. Michigan's prominence is a result of capturing a large share of the Canadian market for cars and trucks, as well as components for motor vehicles. The Canadian Automobile Agreement (Automotive Products Trade Act of 1975) allows producers to ship parts and completed vehicles between the two countries without duties and other trade restrictions, although there are some controls. For example, Chrysler Corporation assembles all of its Cordobas and Magnums in Windsor, and all of its Newports, New Yorkers, and St. Regises in Detroit, irrespective of where they are sold; parts for these vehicles are fabricated in both countries. Largely because of the agreement, about half of U. S. exports of motor vehicles and parts were shipped from Michigan plants. These represent two-thirds of Michigan exports. Other significant Michigan direct exports include construction, industrial, and farm and garden machinery; pharmaceuticals; large home appliances; and meat products.

SUPPORTING MANUFACTURED EXPORTS

Indirect manufactured exports include components, parts, supplies, and so forth, that are made in other plants and incorporated into the

Trends in Michigan Bank Concentration
by Robert Thurman / page 3

products of plants which actually export. These supporting or embodied exports were evaluated by means of what economists call an input-output matrix, a set of equations designed to measure, among other things, how much every other industry must produce to enable any one to export what it does. After making these calculations, the Bureau of the Census allocated the figures among the states based on each state's share of U. S. production that was not exported, for each industry.

In value of embodied exports, Ohio was first, with $4.8 billion; Pennsylvania was second, with $4.3 billion. Steel mills in those states were largely responsible for those rankings. California was third, although no product category was outstanding. Illinois was fourth because of its steel mills, and Michigan was fifth due to the manufacture of vehicles and components.

All told, California was by far the dominant state in the value of factory shipments (direct and supporting) attributed to manufactured exports (see Table 1). Michigan was second, Ohio third, Illinois fourth, and Pennsylvania fifth. It is not surprising that the nation's industrial heartland is well represented in such a listing.

In terms of the relative importance of exports to each state's manufacturers, Washington was by far the dominant state; approximately 22 percent of manufacturers' shipments were exported, either directly or indirectly (see Table 1). The Boeing Company was responsible for about half of that figure, and the lumber and wood products industries for one-quarter. Arizona, Connecticut, Vermont, and West Virginia followed Washington. Michigan ranked sixth, with 13.3 percent of manufacturers' shipments reported as export related during 1976.

JOB CREATION

Estimates of the number of factory jobs generated by manufactured exports were developed on the assumption that the percentage of jobs so created was the same as exports' percentage of total factory shipments. For Michigan, the number of such jobs was 147,900, or 14.1 percent of all manufacturing employment in the state. Five states were higher: California (196,500), Ohio (165,700), Pennsylvania (160,000), Illinois (156,900), and New York (153,500). Michigan's rank in jobs is below its rank in manufactured exports because of relatively higher output (and pay) per worker in the automotive sector.

TABLE 1
Top Ten States in Value of Export-Related Manufacturers' Shipments: 1976

Value of manufacturers' shipments

State	*Direct*[a]	*Supporting*[b]	*Total*	*Percentage*[c]
California	8,071.8	3,952.4	12,024.2	11.8
Michigan	6,888.1	3,763.2	10,651.3	13.3
Ohio	5,793.6	4,782.4	10,576.0	12.7
Illinois	6,659.6	3,773.0	10,432.6	12.7
Pennsylvania	4,706.0	4,272.2	8,978.2	12.5
Texas	5,200.6	3,446.5	8,647.1	11.2
New York	5,320.2	3,072.8	8,393.0	11.0
Indiana	2,827.6	2,744.0	5,571.6	12.3
New Jersey	2,660.2	2,057.8	4,718.0	10.3
Washington	3,234.7	884.0	4,118.7	21.9
Total, top ten	51,362.4	32,748.3	84,110.7	12.3
Total, U.S.	83,098.0	54,098.0	137,729.9	11.6

SOURCE: Bureau of the Census, *Annual Survey of Manufacturers 1976, Origin of Exports of Manufacturing Establishments* (Washington, D.C.: 1979), M76 (AS)-8 Supplement 3, Table 3.

a. Includes only the value of manufactured products exported by the producing plants or their agents.

b. Includes components, parts, supplies, and so forth, shipped from other plants and incorporated into the products shipped to other countries by the plants from which the exports originated.

c. Total exports as a percentage of total manufacturers' shipments.

The input-output procedure also was used to estimate the requirements from the nonmanufacturing sector of the nation's economy and from that the effect on jobs in each state. California was the leader (126,000), followed by New York (122,200), Illinois (83,500), Pennsylvania (79,100), Texas (79,000), Ohio (76,600), and Michigan (64,700). In this state, 17,800 of the nonfactory jobs created by manufactured exports were in business services; 14,000 in wholesale and retail trade; 13,400 in transportation, communication, and public utilities; and 19,500 in mining, agriculture, and other industries.

TOKYO ROUND

Downsizing, dollar devaluation, and the transfer of purchasing power to oil producing countries have expanded overseas markets for Canadian and U. S. automotive products. Overseas exports of passenger cars from both countries will total approximately 275,000 this year, 16 percent above the 1978 level and 45 percent above 1977. For Michigan, this growth translates into less dependence on the Canadian market. Canadian production of vehicles and parts is on the threshold of rapid expansion due to new investment by General Motors, Ford, and Chrysler, indicating that outsiders such as Michigan may have a smaller share of that market.

Overseas markets for Michigan products will receive additional stimulus from the Tokyo Round of trade negotiations held by ninety-nine countries. The talks culminated in a package of measures designed to reduce impediments to international trade substantially. According to a statement released by the Presidential Office of the Special Trade Representative,

> the tariff negotiations will provide some benefit and very little loss to the motor vehicle industry in Michigan. Japan and some other developed countries like Switzerland and Norway have made significant cuts in their automotive tariffs which should aid the expansion of U. S. exports of trucks, buses, and cars. Japan reduced auto tariffs 61 percent to an average rate of less than 3 percent. On the other hand, U.S. tariff cuts on trucks and autos were minimal—less than 20 percent on the average—so that U.S. and Japan average tariff rates will be nearly equal. In the area of nontariff measures, benefits will be more substantial. The standards code provides an especially important mechanism for dealing with standards that have been a significant and growing barrier to international trade in motor vehicles, while the code's prohibition of discrimination against imported products in certification and testing should prove particularly helpful to vehicle exporters. The customs valuation and government procurement codes should help reduce the customs problems in exporting and im-

(Continued on page 6)

Trends in Michigan Bank Concentration

by ROBERT THURMAN, *Graduate Assistant, Division of Research, Graduate School of Business Administration, Michigan State University, East Lansing, Michigan*

Until 1972, the number of banks in Michigan had been decreasing. Between 1960 and that year, for example, the bank population declined from 383 to 331, a drop of 13.6 percent. One study found that mergers were responsible.[1] The researcher predicted that the Bank Holding Company Act of 1971 would stabilize the situation. In fact, by the end of 1978, the number of banks had increased to 365. In addition, the number of branches had increased from 1,354 in 1973 to 1,733 in 1978.

In assessing the changing competitive structure of this industry, it is important to focus on the number of banking organizations that are truly independent of one another. In 1972, there were twenty-three bank holding companies: twenty held one bank and three held more than one. By 1978, there were twenty single-bank holding companies and twenty-two multibank holding companies, the latter controlling a total of 133 banks. Counting all the banks controlled by one holding company as one organization, the total number of banking organizations declined to 254, a drop of 23.3 percent.

CONCENTRATION OF DEPOSITS

Table 1 shows the change in statewide concentration of the banking system as measured by the percentage of deposits held by the top twenty organizations. In 1960, the top twenty controlled 71.4 percent of total deposits. This figure declined to 68.1 percent in 1972 and to 66.5 percent in 1975, more than three years after the new law.

A similar pattern is noted for the top five organizations. The percentage of total deposits declined from 52.1 percent in 1960 to 45.6 percent in 1975. If reduced concentration of resources increases competition, and if more competition means better service and lower prices, this trend can be viewed as being to the public's benefit.

Since 1975, the trend toward less statewide concentration seems to have been reversed. From 1975 to 1978, the twenty largest organizations increased control of deposits by 6.9 percentage points and the five largest by 3.7 percentage points, to nearly 50 percent of total deposits. One could then argue that bank holding companies are leading to greater concentration and less competition.

TABLE 1

Cumulative Percentage of Deposits Held by Michigan's Largest Banking Organizations, 1960–1978

	1960	*1965*	*1972*	*1975*	*1978*
Top 1	21.8	19.7	19.5	15.9	17.7
Top 2	32.7	29.6	28.5	25.3	28.5
Top 3	42.2	39.1	37.2	33.9	37.1
Top 4	48.1	44.9	42.4	42.0	45.7
Top 5	52.1	48.7	46.7	45.6	49.3
Top 10	62.0	49.8	58.7	58.1	62.0
Top 20	71.4	69.3	68.1	66.5	73.4

SOURCES: Financial Institutions Bureau, Michigan Department of Commerce (Lansing, Michigan: 1975, 1978); and Douglas V. Austin, *Revolution and Evolution of the Michigan Banking Structure, 1960–1972* (Toledo, Ohio: The Financial Institutions Academy, Business Research Center, College of Business Administration, The University of Toledo, 1973).

Since 1960, however, deposits have become distributed more evenly among the top twenty organizations. The sixth through the twentieth largest controlled 19.3 percent of deposits in 1960 and 24.1 percent in 1978. The totals for the top twenty organizations in those two years were 71.4 percent and 73.4 percent, respectively. With deposits spread more evenly among the large banks, competition may be stiffer as these organizations compete among themselves to increase market share.

Deposits show indications of being spread more evenly among banks within an organization as well. In 1973, the

TABLE 2

Concentration of Bank Resources on June 30, 1978, and Change in Concentration since June 30, 1973

County	*Number of organizations 6/30/78*	*Change in organizations since 6/30/73*	*H index 6/30/78*	*Change in H index since 6/30/73*
Alcona	2	+ 1	.82	− .18
Alger	3	——	.31	− .05
Allegan	5	− 1	.23	——
Alpena	3	+ 1	.50	——
Antrim	5	——	.25	− .02
Arenac	4	+ 2	.65	− .03
Baraga	2	——	.58	+ .02
Barry	6	+ 1	.33	+ .06
Bay	6	+ 1	.45	− .09
Benzie	4	+ 1	.33	− .01
Berrien	10	+ 1	.20	——
Branch	3	——	.28	− .06
Calhoun	8	——	.41	——
Cass	4	− 1	.34	+ .07
Charlevoix	4	——	.43	+ .01
Cheboygan	2	——	.50	− .01
Chippewa	4	——	.31	+ 0.1
Clare	3	——	.41	——
Clinton	4	——	.44	− .02
Crawford	1	——	1.00	——
Delta	6	+ 1	.26	+ .01
Dickinson	5	+ 2	.35	− .02
Eaton	7	+ 1	.40	− .07
Emmet	4	——	.38	− .05
Genesee	9	+ 2	.32	− .10
Gladwin	2	——	.52	− .01
Gogebic	4	——	.29	+ .01
Grand Traverse	5	+ 1	.29	− .06
Gratiot	5	——	.24	+ .01
Hillsdale	6	——	.27	− .01
Houghton	5	——	.23	− .01
Huron	9	——	.18	− .01
Ingham	12	+ 2	.22	− .03
Ionia	8	+ 1	.30	——
Iosco	3	——	.35	− .03
Iron	4	——	.27	+ .01
Isabella	6	+ 1	.32	——
Jackson	7	− 1	.38	——
Kalamazoo	5	——	.31	− .03
Kalkaska	1	——	1.00	——
Kent	15	+ 2	.32	——

(Continued on page 5)

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	42.5	41.1	40.5 (Aug.)
Average weekly hours, U.S.	40.4	40.0	40.0 (Aug.)
Average hourly earnings, Michigan ($)	8.05	8.79	8.63 (Aug.)
Average hourly earnings, U.S. ($)	6.16	6.71	6.68 (Aug.)
U.S. motor vehicle production (units)	1,037,150	582,982	805,186 (Sep.)
Michigan electricity usage (mil. kwh.)	5,616	5,779	5,870 (May)
Industrial (mil. kwh.)	2,770	2,729	2,873 (May)
Residential (mil. kwh.)	1,631	1,741	1,680 (May)
Raw steel production:			
Michigan (000 net tons)	940	968	942 (Aug.)
United States (000 net tons)	11,550	11,821	11,309 (Aug.)
Consumer price index (1967 = 100)			
Detroit area	194.6	219.5	222.2 (Aug.)
United States	196.7	218.9	221.1 (Aug.)
U.S. wholesale price index (1967 = 100)	212.4	238.1	241.7 (Sep.)
Michigan farm prices received index (1967 = 100)	217	233	224 (Aug.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 8 Months: 1978 and 1979

(Thousands of dollars)

	Nonresidential			Residential			Total[a]		
Area	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	41,779	56,122	+ 34	63,034	52,221	− 17	104,813	108,343	+ 3
Battle Creek	14,751	16,907	+ 15	19,963	30,239	+ 51	34,714	47,146	+ 36
Bay City	6,692	6,506	− 3	12,215	10,855	− 11	18,907	17,361	− 8
Detroit	559,204	690,007	+ 23	724,619	831,963	+ 15	1,283,823	1,521,970	+ 19
Flint	49,505	41,977	− 15	68,066	63,612	− 7	117,571	105,589	− 10
Grand Rapids	103,334	154,666	+ 50	136,669	131,720	− 4	240,003	286,386	+ 19
Jackson	10,571	14,575	+ 38	16,056	13,584	− 15	26,627	28,159	+ 6
Kalamazoo-Portage	13,335	29,163	+100	57,046	49,488	− 13	70,381	78,651	+ 12
Lansing-East Lansing	49,137	60,839	+ 24	85,154	119,489	+ 40	134,291	180,337	+ 34
Muskegon-Norton Shores-Muskegon Heights	20,579	14,471	− 30	23,274	20,124	− 14	43,853	34,595	− 21
Saginaw	54,840	22,881	− 58	36,827	38,616	+ 5	91,667	61,497	− 33
Michigan	1,072,735	1,282,097	+ 20	1,640,007	1,769,579	+ 8	2,712,742	3,051,676	+ 12
United States	29,389,875	33,773,731	+ 15	50,677,857	52,621,199	+ 4	80,067,732	86,394,930	+ 8

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing-East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon-Norton Shores-Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,349,796,000 and $690,110,000 respectively, or a decrease of 49 percent. U.S. figures for nonbuilding construction contracts were $28,649,674 and $29,336,522, or an increase of 2 percent.

Trends in Michigan Bank Concentration

(Continued from page 3)

lead banks of the five largest bank holding companies held almost 90 percent of the deposits of the organization. In 1978, this figure had dropped to 76 percent. Lead bank deposits as a percentage of total state deposits declined from 42.9 percent to 37.5 percent. Of these five organizations, only one, Michigan National, is headquartered outside Detroit. The trend away from lead bank deposit concentration may be viewed as a trend away from the big city banks, possibly to the benefit of other areas of the state.

TABLE 2 (Cont.)

Concentration of Bank Resources on June 30, 1978, and Change in Concentration since June 30, 1973

County	*Number of organizations 6/30/78*	*Change in organizations since 6/30/73*	*H index 6/30/78*	*Change in H index since 6/30/73*
Keweenaw	1	--	1.00	--
Lake	1	--	1.00	--
Lapeer	7	--	.29	− .01
Leelanau	3	--	.44	− .11
Lenawee	11	--	.14	--
Livingston	6	+ 1	.30	--
Luce	1	--	1.00	--
Mackinac	3	+ 2	.80	− .20
Macomb	19	− 3	.11	+ .02
Manistee	2	--	.50	--
Marquette	5	--	.42	+ .19
Mason	3	--	.34	--
Mecosta	3	--	.51	+ .02
Menominee	4	--	.30	− .01
Midland	4	+ 1	.50	− .01
Missaukee	2	--	.74	− .08
Monroe	8	+ 2	.31	− .04
Montcalm	7	− 2	.17	--
Montmorency	2	--	.64	+ .04
Muskegon	5	+ 1	.30	− .02
Newaygo	5	− 1	.20	− .03
Oakland	24	− 2	.11	--
Oceana	3	--	.47	--
Ogemaw	3	--	.51	− .05
Ontonagon	3	--	.35	− .01
Osceola	3	--	.31	--
Oscoda	1	--	1.00	--
Otsego	2	+ 1	.82	− .18
Ottawa	11	+ 2	.20	+ .03
Presque Isle	3	--	.43	− .02
Roscommon	2	--	.71	− .03
Saginaw	8	+ 1	.30	--
St. Clair	8	+ 1	.23	− .03
St. Joseph	8	− 1	.18	--
Sanilac	7	--	.25	− .03
Schoolcraft	2	--	.50	--
Shiawassee	7	+ 1	.34	− .02
Tuscola	12	+ 1	.12	--
Van Buren	7	− 1	.24	+ .02
Washtenaw	13	+ 2	.16	− .04
Wayne	21	--	.19	− .03
Wexford	3	--	.61	− .04

SOURCES: Special release of branch deposit data from Federal Deposit Insurance Corporation, Washington, D.C., 30 June 1973–30 June 1978; and Financial Institutions Bureau, Michigan Department of Commerce, *Annual Report* (Lansing: 1973 and 1978).

LOCAL CONCENTRATION OF DEPOSITS

The competition among organizations on a statewide basis is of little consequence to the individual or the business person who deals with the readily accessible local banker. Local competition among banks may be more important in determining the price and quality of service to these individuals. This part of the study analyzes the change in concentration on the local level since the banking law revision. The period of study is June 30, 1973, to June 30, 1978. Earlier data on distribution of deposits by branch are not readily available. For statistical convenience, the county is chosen as the unit of analysis, although a more thorough investigation would consider such factors as shopping and traffic patterns within a community to demarcate the local market. Considerable effort is spent defining these markets when a new branch or bank is proposed. However, for purposes of determining broad area trends in concentration, an analysis by county is adequate.

All deposits held by the branches of the same bank holding company or organization were aggregrated to compute the market share. An index was then computed for each county for 1973 and 1978.

> The Herfindahl index (H) is computed by squaring the market share for each institution and totaling these shares for all institutions in the relevant market. It gives more information about a market than the conventional concentration ratio because it takes into account all firms in a market and also indicates the inequality among firms in a market. Consider two markets consisting of five firms each. In the first market, each firm controls 20 percent of the market whereas in the second, the largest firm controls 60 percent while the other four firms control 10 percent each. H for the first market is .20 while it is .40 in the second. Although the conventional concentration ratio would be 1.0 in either case, the H index indicates that the second market is less competitive than the first.[2]

The results of the H index showed few dramatic increases in concentration that could be attributed to the increase in bank holding companies. In fact, more than 80 percent of the counties showed either no change or a net decline in the H index (see Table 2). In addition, the number of organizations competing in a market either increased or showed no change in nearly 90 percent of the counties.

Of the fifteen counties that registered an increase in H, only five had an increase of .03 or more. Of the nine counties that showed a decrease in the number of competing organizations, only three were accompanied by an increase in concentration as indicated by a higher H value. The data for each of the seven counties that showed significant changes has been examined to determine how market shares shifted to increase the H index. Shifts were caused by internal growth, creation of banks and combination of existing banks (see Table 3).

The use of the H index is not without its problems.

(1) The deposit information used to calculate market share is based on estimates of distribution provided by the banks to the Federal Deposit Insurance Corporation. These estimates may knowingly or unknowingly misrep-

resent the relative importance of the branches within a county.

(2) The county is a crude measure of relevant market area.

(3) The measure of competition, that is, concentration of deposits, may not be a representative yardstick. Other factors to consider in determining competition may be availability and cost of lendable funds and the availability, cost, and quality of service.

(4) Finally, alliances and informal or formal organization structure may have been in existence before the bank holding company laws were revised but were not taken into account by this study. To the extent that these arrangements existed, the bank holding company revisions have had less effect on concentration than indicated.

With the possible exceptions discussed earlier, this analysis has found no conclusive evidence that bank holding companies have greatly increased concentration on either the state or local level. However, since the passage of the revised bank holding company laws, concentration on a statewide basis has fluctuated. In 1978 it was higher than in 1972. By contrast, concentration on the local level appears to have decreased since revision.

TABLE 3

Changes in Market Shares of Deposits that Resulted in an Increase in the H Index, June 30: 1973–1978

	June 30, 1973 (percentage)[a]	*June 30, 1978 (percentage)*
Barry		
The Hastings City Bank	39.2	50.4
Cass		
Pacesetter Financial Corporation		39.2
The First National Bank of Cassopolis	18.2	
First National Bank of Southwestern Michigan	20.8	
Marquette		
Michigan Financial Corporation		61.3
The First National Bank & Trust Co. of Marquette	35.8	
The Gwinn State Savings Bank	4.6	
The Miners' First National Bank & Trust Company of Ishpeming	16.7	
Macomb		
Detroit Bank Corporation		21.0
The Detroit Bank	14.5	
The Detroit Bank–Warren	3.5	
The Detroit Bank–Sterling	b	
Montmorency		
Lewiston State Bank	72.9	76.2
Ottawa		
Old Kent Financial Corporation		22.6
Old Kent Bank & Trust	5.3	
Peoples Bank & Trust of Holland	17.7	
First Michigan Bank & Trust	26.1	29.6
Van Buren		
American National Holding Company		15.5
American National Bank & Trust–Kalamazoo	8.3	
American National Bank & Trust–West	b	

SOURCES: Special release of branch deposit data from Federal Deposit Insurance Corporation, Washington, D.C., 30 June 1973–30 June 1978; and Financial Institutions Bureau, Michigan Department of Commerce, *Annual Report* (Lansing: 1973 and 1978).

a. Only the shifts that resulted in the largest increases of the H index for each county have been recorded.

b. These banks did not exist or had no deposits in the county in 1973.

CITATIONS

1. Douglas V. Austin, *Revolution and Evolution of the Michigan Banking Structure, 1960–1972* (Toledo, Ohio: The Financial Institutions Academy, Business Research Center, College of Business Administration, The University of Toledo, 1973).
2. Haskins & Sells, *Final Report to the Governor's Advisory Commission on the Regulation of Financial Institutions on the Study of Financial Intermediaries in Michigan* (Lansing: 1977), p. II-3.8.

Effects of Exports

(Continued from page 2)

prove the opportunities for producers to bid on government procurement contracts overseas.

The Tokyo Round will benefit this state particularly in indirect exports, since Michigan is the major source of automotive components and has an expanding capacity to produce them. The state's machinery producers and pharmaceutical manufacturers also will be favorably affected.

Michigan is the major producer of tart cherries and navy beans. Those industries also received important trade concessions, particularly from Japan.

BRIEFS

Michigan ranked third among the states, behind Alaska and California, in average **earnings for full-time state government employees** according to the most recent quinquennial Census of Governments. The pay figures pertain to October 1977 and exclude instructional personnel such as college faculty. In average pay level among noninstructional full-time employees of local units of government, Michigan ranked seventh.

Table 1 lists Michigan counties according to their ranking on the latter criterion.

TABLE 1

Listing of Michigan Counties According to Ranking in Average October Earnings of Full-Time Noninstructional Employees in Local Government: 1977

County	*Earnings 1977*	*County*	*Earnings 1977*
Wayne	$1,276	Bay	$965
Washtenaw	1,168	Alpena	962
Oakland	1,149	Monroe	960
Macomb	1,138	Mason	939
Genesee	1,111	Clinton	937
St. Clair	1,086	Isabella	934
Ingham	1,073	Alcona	931
Kalamazoo	1,070	Alger	928
Midland	1,053	Lenawee	928
Calhoun	991	Eaton	925
Grand Traverse	987	Muskegon	921
Kent	987	Marquette	920
Jackson	971	Livingston	919
Saginaw	967	Cass	913

TABLE 1 (Cont.)
Listing of Michigan Counties According to Ranking in Average October Earnings of Full-Time Noninstructional Employees in Local Government: 1977

County	*Earnings 1977*	*County*	*Earnings 1977*
Gogebic	$913	Houghton	$835
Ionia	911	Mackinac	834
Ottawa	905	Van Buren	832
Shiawassee	903	Baraga	828
Cheboygan	892	Sanilac	827
Montcalm	892	Menominee	824
Dickinson	884	Iron	819
Berrien	883	Charlevoix	815
Branch	883	Oceana	812
Presque Isle	880	Newaygo	807
Allegan	877	Chippewa	805
Leelanau	877	Oscoda	804
Delta	873	Iosco	803
Roscommon	873	Mecosta	803
Wexford	871	Lake	801
Manistee	870	Hillsdale	799
Lapeer	868	Schoolcraft	796
Clare	866	Ontonagon	782
Montmorency	866	Kalkaska	768
Crawford	864	Ogemaw	767
Emmet	857	Otsego	767
Barry	856	Keweenaw	750
Arenac	854	Missaukee	749
Tuscola	853	Osceola	745
Huron	852	Luce	744
Gladwin	848	Antrim	742
St. Joseph	845	Michigan, Local[a]	1,095
Benzie	844	Michigan, State[b]	1,207
Gratiot	842		

SOURCE: Bureau of the Census, *1977 Census of Governments*, Vol. 3, *Public Employment*, No. 2: *Compendium of Public Employment* (Washington, D.C.: U.S. Government Printing Office, 1979), Tables 11 and 16.
NOTE: Instructional employees, which are excluded, comprise classroom teachers, professors, lecturers, and so forth, as well as principals, supervisors of instruction, librarians, guidance personnel, teacher aides, library aides, persons engaged in departmental research, teachers at hospitals, and teachers at agricultural experiment stations and farms.

[a] Average for local governments in Michigan.

[b] Average of State of Michigan noninstructional employees.

The **annual cost of an intermediate standard of living** for a retired couple in the Detroit area was $7,965 during autumn 1978, according to figures recently released by the U.S. Bureau of Labor Statistics. The BLS tabulates the cost of three budgets for hypothetical goods and services that were specified in the mid-1960s as portraying three relative levels of living in thirty-nine metropolitan areas; four nonmetropolitan urban regions; and Anchorage, Alaska. The levels are lower (but above poverty or subsistence), intermediate, and higher. For the thirty-nine metropolitan areas, the average was $8,108, a figure which should not be regarded as significantly higher than that for the Detroit six-county area of Wayne, Oakland, Macomb, Livingston, Lapeer, and St. Clair. The costs of lower budgets for retired couples were $5,617 in the thirty-nine areas and $5,577 in Detroit. Higher budget costs were $12,069 and $12,265, respectively. At all three budget levels, the least costly area was the nonmetropolitan urban South, the highest was Anchorage, Alaska.

Huron, Sanilac, and Allegan counties were the top three in **total cash receipts from farm marketings** during 1977 in Michigan, according to figures recently released by the Bureau of Economic Analysis, an agency of the U.S. Department of Commerce. These counties had the greatest dollar volume because of their top ranking in sales of livestock and livestock products. In cash receipts from crop marketings alone, Saginaw, Berrien, and Tuscola counties were above all others in the state. Counties at the bottom of the ranking in cash receipts from agriculture are all located in northern portions of the state.

Michigan Counties Ranked According to Cash Receipts from Total Marketings: 1977
(Millions of dollars)

County	*1977*	*County*	*1977*
Huron	98	Midland	14
Sanilac	79	Mason	13
Allegan	72	Menominee	13
Lenawee	71	Missaukee	12
Tuscola	71	Arenac	12
Saginaw	68	Osceola	11
Ottawa	65	Wayne	11
Berrien	59	Antrim	10
Kent	55	Manistee	7
Gratiot	54	Presque Isle	7
Van Buren	51	Ogemaw	7
Lapeer	45	Clare	7
Monroe	43	Delta	6
Clinton	43	Gladwin	6
Ionia	43	Alpena	6
Calhoun	41	Benzie	5
Hillsdale	40	Dickinson	5
Ingham	40	Iosco	4
Bay	39	Chippewa	4
Cass	39	Charlevoix	4
Washtenaw	37	Wexford	4
Montcalm	37	Emmet	3
St. Joseph	36	Houghton	3
Kalamazoo	35	Cheboygan	3
Branch	35	Alcona	3
St. Clair	34	Oscoda	2
Isabella	34	Montmorency	2
Jackson	32	Otsego	2
Shiawassee	32	Mackinac	2
Eaton	31	Iron	2
Oceana	27	Ontonagon	1
Macomb	25	Marquette	1
Newaygo	25	Alger	1
Genesee	24	Kalkaska	1
Barry	23	Lake	1
Livingston	21	Gogebic	1
Muskegon	19	Baraga	1
Mecosta	18	Luce	1
Leelanau	17	Schoolcraft	1
Grand Traverse	16	Roscommon	a
Oakland	15	MICHIGAN[b]	1,885

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

[a] Less than $500,000.

[b] Keweenaw and Crawford counties have no cash receipts reported.

MICHIGAN STATISTICAL ABSTRACT

Fourteenth Edition, 1979

The attractions featured in the 1979 edition of the *Michigan Statistical Abstract* include an 18-page description of this state's economy published in about 1848. Another item of interest is the official version of "The Toledo War." Did you know that Alpheus Felch, our sixth governor, had served in that war?

A new chapter covers Michigan's role in the automotive industry. Included are excerpts and statistics from the 1905 Census of Manufactures, which treated automobiles as a separate subject for the first time. Did you know that by 1905 Michigan displaced Connecticut in capital invested in the automobile industry ($3.7 million), although Ohio ranked first in wage earners? In that year, the entire U.S. auto industry reported 11 women and 32 children employed.

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A MONTHLY SURVEY
OF BUSINESS CONDITIONS
IN MICHIGAN

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BUSINESS ACTIVITY IN METROPOLITAN AREAS

by PAUL J. KOZLOWSKI, *Assistant Professor, College of Business Administration, University of Toledo*

Michigan has a long history as a cyclically sensitive state because of its heavy dependence on the volatile automobile industry. During the past ten years, the national economy has exhibited a fairly high degree of cyclical instability; consequently, Michigan's widely recognized boom and bust cycle has been repeated.

In 1977, Michigan's population was estimated at 9.1 million. About 80 percent of state residents lived in the eleven Standard Metropolitan Statistical Areas (SMSAs) in the southern half of the lower peninsula, stretching from the Detroit SMSA in the east to the Muskegon–Norton Shores–Muskegon Heights SMSA in the west. These eleven SMSAs can be viewed as open regional economies which vary in size, industrial structure, and rate of growth. The six-county Detroit SMSA is the largest, having a population more than seven times that of the Grand Rapids SMSA, which ranks second in size. In addition, industrial activity in Michigan is concentrated in these eleven SMSAs. For example, in 1977, 86.6 percent of all manufacturing jobs were located in these areas, as were 89.4 percent of all jobs in the volatile durable goods industries. Of course, the Detroit SMSA dominates, accounting for about one-half of total wage and salary employment in the state and slightly more than one-half of manufacturing and nonmanufacturing employment. While the Detroit SMSA has a considerable effect on overall business activity in Michigan, the behavior of the other ten also contributes. Given the differences in the structural characteristics of the eleven SMSAs, short-run variations in local business activity can be expected.

This article reports on one aspect of intrastate business activity — magnitude of short-run swings in activity in the eleven SMSAs. (Other characteristics of local business activity, such as timing, duration, and rate of growth, are examined in detail in a forthcoming publication.)[1] Fourteen quarterly economic indicators were assembled for each SMSA and for the state. These indicators, shown in Tables 1, 2, and 3, cover labor market, construction, and banking activity from the late 1960s to the late 1970s. The amplitude measures shown in the tables reveal wide disparities among the state's eleven SMSAs during expansion and recession phases of the national business cycle in the 1970s.

It should be noted that upswings and downswings in local economic indicators generally conformed to national business cycle patterns. In other words, during the most recent national recession, those local series that would be expected to decline did so (manufacturing employment, for example), while those series that typically rise during a business slump (the unemployment rate, for example) behaved as expected in most cases. There were some notable exceptions, however. Two SMSAs, Ann Arbor–

Material for this article is taken from the following publication:

Business Conditions in Michigan Metropolitan Areas

by Paul J. Kozlowski

Available December 1979 from the W. E. Upjohn Institute for Employment Research, Kalamazoo, MI, $4.50 per copy.

Ypsilanti and Flint, did not experience a cyclical decline in new building permits in the 1969–1970 national recession. Also, the Ann Arbor–Ypsilanti, Muskegon, and Saginaw SMSAs experienced a slowdown in growth, not an absolute decline, in the current dollar volume of total loans during the 1973–1975 recession. Finally, during that recession, only three of eleven SMSAs experienced a decline in government employment, and only seven of eleven suffered a decrease in the current dollar volume of commercial and industrial loans that can be classified as cyclical.

Although cyclical swings in business activity in Michigan SMSAs conformed to national patterns, there were substantial differences among the eleven areas in the amplitude of fluctuations in labor market, construction, and banking processes. Table 1 presents the amplitudes of the cyclical expansion phases that generally conformed to the national business cycle expansion of 1970–1973. The measures shown in the table represent absolute values of the percentage change in each series from its initial trough to terminal peak. Table 2 shows the absolute values of percentage changes (peak to trough) in each series for the cyclical phase conforming to the 1973–1975 national recession. Finally, Table 3 gives the absolute values of percentage changes in each series for the expansion phase conforming to the most recent national business cycle expansion, which began in the first quarter of 1975. The latter measures represent changes from the trough value to a most recent high or low. In many cases, these measures may reflect incomplete phases, because it is still not clear whether the national and local expansions have ended and business contractions are under way.

MANUFACTURING

Note that, among the labor market indicators, manufacturing employment and the average workweek of manufacturing workers exhibited sizable upswings and downswings in the Ann Arbor–Ypsilanti, Flint, Lansing–East Lansing, and Saginaw SMSAs. This is not surprising considering that these areas are heavily dependent on the automobile industry. During the 1973–1975 recession, manufacturing employment fell 26 percent in Ann Arbor–Ypsilanti, 25.5 percent in Flint (and Jackson), 24.5 percent in Lansing–East Lansing, and 20.6 percent in Saginaw; hours worked fell 13.6, 14.5, 14.6, and 12.5 percent, respectively. Tables 1 and 3 show that the two expansions were also relatively strong in each of those four areas, resulting in a high degree of cyclical sensitivity in their manufacturing sectors. In contrast, the two areas least dependent on durable goods production, the Battle Creek and Kalamazoo-Portage SMSAs, exhibited the lowest degree of cyclical sensitivity in manufacturing. During the 1973–1975 recession, manufacturing employment fell 13.6 per-

TABLE 1

Amplitude of Expansions in Specific Series Conforming to the National Business Expansion of 1970–1973[a]

Series	*Ann Arbor–Ypsilanti*	*Battle Creek*	*Bay City*	*Detroit*	*Flint*	*Grand Rapids*	*Jackson*	*Kalamazoo–Portage*	*Lansing–East Lansing*	*Muskegon–Norton Shores–Muskegon Heights*	*Saginaw*	*Michigan*
Total wage and salary employment	20.4	9.1	19.8	13.4	40.7	19.4	17.4	17.1	23.9	13.5	31.3	15.2
Manufacturing employment	38.0	8.9	20.9	19.4	93.5	24.0	21.7	14.0	57.4	14.2	64.7	23.2
Nonmanufacturing employment	34.5	9.7	23.0	12.0	11.4	18.1	23.2	b	22.6	14.2	19.8	14.5
Government employment	b	14.9	b	b	21.5	b	b	b	b	b	b	b
Unemployment rate	41.7	29.7	48.2	35.8	57.5	34.2	46.7	38.4	45.0	43.0	37.3	35.7
Average weekly initial claims for unemployment	55.8	40.1	64.3	60.6	69.7	69.5	66.5	44.4	64.6	58.1	70.4	52.6
Average workweek, prod. workers, mfg.	16.0	9.3	b	15.4	18.8	3.8	14.9	4.4	19.3	12.1	18.8	11.3
New building permits	130.1	259.0	175.1	60.9	104.5	107.4	135.2	200.0	148.4	115.8	60.0	61.3
Construction employment	30.0	23.5	70.0	9.6	21.6	32.1	33.3	29.4	21.6	43.8	32.1	15.2
Deflated demand deposits[c]	13.0	d	15.5	26.3	24.5	21.2	20.2	40.2	26.7	19.8	23.4	24.2[e]
Deflated total deposits[f]	19.3	d	22.8	21.6	33.5	26.5	26.1	33.5	17.3	34.1	28.2	20.0[e]
Total loans[f]	b	d	26.2	47.2	62.5	59.6	56.6	69.6	40.6	b	b	b
Comm. and ind. loans[e]	b	d	16.8[f]	40.2[f]	44.4[f]	86.0	50.5	b	b	b	91.1	39.7
Consumer Installment loans[e]	48.0	d	47.3[f]	68.8	58.0	77.6	75.4[f]	b	72.9[f]	86.3	142.7[f]	59.9

a. Amplitude measures represent percentage changes from trough to peak, disregarding the sign, for specific phases conforming to the 1970–1973 national business cycle expansion.
b. Expansion phase not discernible.
c. Except for Ann Arbor–Ypsilanti and Saginaw, the beginning value of the series was chosen as the initial trough value for the expansion period.
d. For Battle Creek, data prior to 1971 were not available; therefore, the entire expansion phase could not be measured.
e. Based on seasonally unadjusted data.
f. Beginning value of the series chosen as initial trough value for the expansion period.

cent in the Kalamazoo-Portage SMSA. This was the mildest contraction among Michigan metropolitan areas—nearly one-half the magnitude of the slump in the Ann Arbor–Ypsilanti SMSA.

The swings in total wage and salary employment reflect the varying degrees of volatility of local manufacturing employment, but not perfectly. Total wage and salary employment exhibited the greatest cyclical sensitivity in the Flint SMSA, the least in the Kalamazoo-Portage SMSA. Despite highly volatile manufacturing sectors in the Ann Arbor–Ypsilanti and Lansing–East Lansing SMSAs, cyclical declines in total wage and salary employment were relatively mild due to the moderating influence of the large and fairly stable nonmanufacturing and government sectors in each area.

UNEMPLOYMENT

The Ann Arbor–Ypsilanti, Flint and Saginaw SMSAs also exhibited sizable swings in average weekly initial claims for unemployment insurance. Comparable data from 1968 were available, and behavior during the two recessions can be compared. During the 1969–1970 recession, average weekly initial claims rose 337.2 percent in the Ann Arbor–Ypsilanti SMSA, 478.4 percent in the Flint SMSA, and 456.1 percent in the Saginaw SMSA; these areas ranked fourth, first, and second, respectively. In the Lansing–East Lansing SMSA, which ranked third, average weekly initial claims rose 342.6 percent. Table 2 shows that the Ann Arbor–Ypsilanti, Flint, and Saginaw SMSAs ranked first, second, and third, respectively, in terms of the cyclical rise in average weekly initial claims during the 1973–1975 recession. Although that business slump was more severe than the one in 1969–1970, average weekly initial claims actually rose less in the Bay City, Lansing–East Lansing, and Muskegon SMSAs. In all other SMSAs, in the state, and in the nation, the cyclical upswing in average weekly initial claims during the 1973–1975 recession was substantially larger than during the 1969–1970 period.

During the two business expansion periods, sizable declines in average weekly initial claims accompanied employment upswings in all the metropolitan areas. Tables 1 and 3 show that, so far in the expansion that began in 1975, the decrease in average weekly initial claims exceeds that of the previous expansion (1970–1973) in all areas except Grand Rapids, Jackson, Lansing–East Lansing, and Muskegon. Despite declines since the last recession, however, average weekly initial claims in all Michigan metropolitan areas at the end of 1978 remained above their prerecession lows. The business expansions in these local areas, therefore, have failed to pull average weekly initial

(Continued on page 5)

TABLE 2
Amplitude of Contractions in Specific Series Conforming to the 1973–1975 National Recession[a]

Series	*Ann Arbor–Ypsilanti*	*Battle Creek*	*Bay City*	*Detroit*	*Flint*	*Grand Rapids*	*Jackson*	*Kalamazoo–Portage*	*Lansing–East Lansing*	*Muskegon–Norton Shores–Muskegon Heights*	*Saginaw*	*Michigan*
Total wage and salary employment	8.0	6.3	6.0	8.1	13.4	5.1	8.3	3.2	3.9	4.3	7.7	6.9
Manufacturing employment	26.0	15.7	19.2	20.1	25.5	18.3	25.5	13.6	24.5	15.3	20.6	18.7
Nonmanufacturing employment	5.1	2.2	2.2	3.6	5.5	1.2	4.6	b	1.7	2.4	3.7	3.4
Government employment	b	8.6	b	b	8.3	b	4.7	b	b	b	b	b
Unemployment rate	231.0	146.2	150.9	140.4	220.4	148.0	212.5	160.0	204.5	153.8	192.9	148.1
Average weekly initial claims for unemployment[c]	638.8 (337.2)	396.7 (104.6)	301.7 (324.8)	375.1 (237.3)	522.7 (478.4)	452.6 (137.7)	282.0 (253.8)	258.0 (176.9)	222.9 (342.6)	198.3 (227.2)	503.9 (456.1)	301.1 (193.2)
Average workweek, prod. workers, mfg. ..	13.6	5.3	b	12.5	14.5	5.3	7.6	7.0	14.6	7.1	12.5	9.7
New building permits[c] ..	88.6 (b)	84.5 (66.6)	72.3 (54.4)	67.5 (29.3)	79.6 (b)	46.3 (43.0)	33.9 (33.3)	75.3 (58.3)	71.2 (63.4)	72.7 (33.1)	73.2 (31.5)	56.2 (21.5)
Construction employment	38.4	33.3	47.1	24.9	33.9	20.7	45.0	18.2	24.2	13.0	40.5	23.5
Deflated demand deposits	21.6	28.9	31.8	29.0	26.7	24.4	26.4	25.1	28.6	26.4	19.9	31.1[d]
Deflated total deposits..	8.4	15.7	17.8	11.8	13.4	9.1	10.3	14.7	15.7	11.0	6.0	11.2[d]
Total loans	b	9.8	4.1	7.0	4.8	4.8	6.4	5.1	4.8	b	b	b
Comm. and ind. loans[d]..	b	26.1	21.4	7.3	6.3	5.6	18.3	b	b	b	12.2	0.8
Consumer installment loans[d]	4.3	32.5	9.0	9.8	6.0	8.7	14.4	b	8.4	6.3	6.2	6.6

a. Amplitude measures represent percentage changes from peak to trough, disregarding the sign, for specific phases conforming to the 1973–1975 national business cycle contraction.
b. Contraction phase not evident.
c. Numbers in parentheses are comparable measures for the 1969–1970 recession.
d. Measures based on seasonally unadjusted data.

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	44.1	40.5	40.6 (Sep.)
Average weekly hours, U.S.	40.7	40.0	40.3 (Sep.)
Average hourly earnings, Michigan ($)	8.23	8.61	8.73 (Sep.)
Average hourly earnings, U.S. ($)	6.28	6.69	6.80 (Sep.)
U.S. motor vehicle production (units)	1,279,469	805,186	1,022,601 (Oct.)
Michigan electricity usage (mil. kwh.)	6,158	6,008	6,082 (Aug.)
Industrial (mil. kwh.)	2,869	2,799	2,709 (Aug.)
Residential (mil. kwh.)	1,832	1,784	1,890 (Aug.)
Raw steel production:			
Michigan (000 net tons)	1,035	819	823 (Oct.)
United States (000 net tons)	12,105	10,541	10,810 (Oct.)
Consumer price index (1967 = 100)			
Detroit area	227.2	255.4	257.0 (Sep.)
United States	231.8	257.1	259.8 (Sep.)
U.S. wholesale price index (1967 = 100)	214.9	241.7	245.2 (Oct.)
Michigan farm prices received index (1967 = 100)	210	230	228 (Oct.)

Sources: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 9 Months: 1978 and 1979

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	51,478	61,493	+ 19	70,798	59,641	− 16	122,276	121,134	− 1
Battle Creek	24,017	18,679	− 22	24,962	32,003	+ 28	48,979	50,682	+ 3
Bay City	7,436	7,823	+ 5	13,909	11,669	− 16	21,345	19,492	− 9
Detroit	657,000	792,791	+ 21	813,704	915,666	+ 13	1,470,704	1,708,457	+ 16
Flint	58,828	59,715	+ 2	74,295	77,458	+ 4	133,123	137,173	+ 3
Grand Rapids	128,442	223,407	+ 74	154,725	137,745	− 11	283,167	361,152	+ 28
Jackson	11,568	14,950	+ 29	17,865	15,233	− 15	29,433	30,183	+ 3
Kalamazoo-Portage	16,753	38,354	+100	65,611	54,874	− 16	82,364	93,228	+ 13
Lansing–East Lansing	72,278	63,547	− 12	93,047	131,845	+ 42	165,325	195,392	+ 18
Muskegon–Norton Shores–Muskegon Heights	21,032	16,865	− 20	26,011	22,550	− 13	47,043	39,415	− 16
Saginaw	55,298	29,009	− 48	40,828	46,225	+ 13	96,126	75,234	− 22
Michigan	1,308,442	1,509,764	+ 15	1,848,624	1,967,790	+ 6	3,157,066	3,477,554	+ 10
United States	34,129,875	38,243,731	+ 12	57,177,857	58,871,199	+ 3	91,307,732	97,114,930	+ 6

Source: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

Note: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,564,828,000 and $724,795,000 respectively, or a decrease of 54 percent. U.S. figures for nonbuilding construction contracts were $31,529,674,000 and $31,896,522,000, or an increase of 1 percent.

Business Activity In Metropolitan Areas

(Continued from page 3)

claims down enough to offset the sizable increases that occurred during the recession. Consequently, this series exhibits an upward trend over the entire period in all Michigan metropolitan areas and in the state as a whole, a phenomenon also noticeable nationwide.

The behavior of the local unemployment rates is similar: The recession led to sizable upswings, and, in most cases, declines during the recent expansion have not offset earlier increases. The hardest hit areas during the most recent recession, that is, those with large peak-to-trough percentage changes, tended to be the areas in which the slump in manufacturing employment was particularly severe—Ann Arbor–Ypsilanti, Flint, Jackson, Lansing–East Lansing, and Saginaw. In fact, the correlation between the amplitudes of those two series for the recession period is pronounced, which indicates a strong association between the magnitudes of the contraction phases of manufacturing employment and the jobless rate across Michigan metropolitan areas. This positive relationship is also evident during expansions, although the degree of association is not as strong as during recessions. What this suggests is that metropolitan areas in Michigan that have a large and highly volatile manufacturing base also are susceptible to sizable upswings in unemployment during business slumps. The Ann Arbor–Ypsilanti and Flint SMSAs are excellent examples. Both experienced sharp declines in manufacturing employment during the 1973–1975 recession, resulting from the decline in activity in the automobile industry. The quarterly unemployment rate in the Ann Arbor–Ypsilanti SMSA rose from a seasonally adjusted 4.2 percent to 13.9 percent, and in the Flint SMSA it rose from 5.4 percent to 17.3 percent. The latter represents the highest quarterly jobless rate among Michigan metropolitan areas during the most recent recession. At the other extreme is the Kalamazoo–Portage SMSA, which experienced the mildest slump in manufacturing employment; its jobless rate rose from 4.5 percent to 11.7 percent. Although the latter was well above the national average, it was below the statewide high of 13.4 percent and the lowest among the eleven metropolitan areas. By the end of 1978, the unemployment rate in almost all Michigan metropolitan areas was still above pre-recession lows. The only exception was the Grand Rapids SMSA, where the jobless rate fell to a seasonally adjusted 4.8 percent in the first quarter of 1978, just below its pre-recession low of 5 percent.

CONSTRUCTION

The two indicators of local construction activity reveal a high degree of cyclical sensitivity in Michigan SMSAs. In all areas, the total amplitude of the fluctuations in new building permits for private housing exceeded that of the

TABLE 3
Amplitude of Expansions in Specific Series Conforming to the National Business Expansion Starting in 1975[a]

Series	Ann Arbor–Ypsilanti	Battle Creek	Bay City	Detroit	Flint	Grand Rapids	Jackson	Kalamazoo–Portage	Lansing–East Lansing	Muskegon–Norton Shores–Muskegon Heights	Saginaw	Michigan
Total wage and salary employment	21.4	10.5	19.5	13.5	27.9	17.5	8.8	12.9	17.2	10.8	23.3	15.5
Manufacturing employment	46.1	4.9	39.3	18.6	40.5	29.0	17.8	18.1	35.3	11.7	34.5	20.0
Nonmanufacturing employment	15.8	15.5	15.2	13.2	25.4	12.9	10.9	b	13.9	15.6	14.7	14.9
Government employment	b	20.8	b	b	24.5	b	9.9	b	b	b	b	b
Unemployment rate	64.0	50.8	57.3	48.8	59.5	61.3	55.2	53.0	55.2	52.1	58.5	50.0
Average weekly initial claims for unemployment	77.3	66.5	72.8	62.2	75.9	67.4	59.9	59.8	51.8	48.4	85.6	59.2
Average workweek, prod. workers, mfg.	13.2	3.2	b	11.8	22.7	7.4	10.8	6.0	14.6	8.4	19.9	9.3
New building permits	162.9	240.3	143.9	93.8	194.7	82.9	141.8	212.1	132.1	196.5	79.9	60.1
Construction employment	37.5	21.4	100.0	52.0	87.8	29.5	54.5	19.4	14.9	50.0	40.9	47.5
Deflated demand deposits	14.8	19.0	14.3	16.7	26.7	22.2	15.4	11.2	9.5	6.9	21.6	19.4[c]
Deflated total deposits	19.6	9.7	15.2	8.5	18.8	14.8	6.9	9.1	7.1	8.1	17.1	9.5[c]
Total loans	b	41.7	89.0	29.2	42.5	40.7	27.3	32.1	26.3	b	b	b
Comm. and ind. loans[c]	b	53.9	118.1	32.2	b	57.7	b	b	b	b	87.9	33.4
Consumer installment loans[c]	72.1	49.7	101.0	54.7	80.9	49.6	35.5	b	34.8	40.0	54.3	51.4

a. Amplitude measures represent percentage changes from trough to the most recent high or low, disregarding the sign, for specific phases conforming to the national business cycle expansion that began in early 1975. These measures are preliminary since expansion phases may be incomplete.
b. Expansion phase not discernible.
c. Based on seasonally unadjusted data.

state and the nation. With few exceptions, this also was the case for specific contraction and expansion phases. The two recession periods are quite revealing. All metropolitan areas except Ann Arbor–Ypsilanti and Flint experienced larger downswings in new building permits than did the state as a whole during the 1969–1970 recession. The Ann Arbor–Ypsilanti and Flint SMSAs did experience contractions from the mid- to the late 1960s, but they did not conform to the national recession. As Table 2 shows, only the Grand Rapids and Jackson SMSAs suffered less severe declines than did the state during the 1973–1975 slump. The most severe contractions occurred in the Ann Arbor–Ypsilanti, Battle Creek, and Flint SMSAs. However, as Table 2 shows, many other metropolitan areas experienced declines that were only slightly milder than that of the state as a whole. With only two exceptions, then, the drop in new building permits was sharp in Michigan metropolitan areas during the mid-1970s. Table 3 shows, however, that the upswings following the most recent recession were also sizable, with the largest relative increases occurring in the Battle Creek and Kalamazoo-Portage SMSAs. Nevertheless, new building permit levels in 1978 were below their pre-recession peaks in all Michigan metropolitan areas except Jackson. This situation is not unusual since both the statewide and nationwide series have also failed to surpass their previous peaks during the recent business expansion.

The behavior of construction employment was similar. The magnitudes of the upswings in this local series during the 1970–1973 business expansion exceeded the statewide gain in all metropolitan areas except Detroit (see Table 1). Table 2 shows that the slump during the mid-1970s was more severe than in the state as a whole in all metropolitan areas except Grand Rapids, Kalamazoo-Portage, and Muskegon. Note that the Grand Rapids SMSA was the only metropolitan area in the state to experience a relatively mild slump in construction employment and new building permits. Interestingly, the Jackson SMSA suffered the largest relative drop in construction employment and the mildest decrease in new building permits among the eleven SMSAs. Table 3 shows that in only five of eleven metropolitan areas has construction employment expanded more than it has statewide from the trough to the most recent high. In nine of eleven areas, the most recent expansion of construction employment exceeded the 1970–1973 upswing. The Grand Rapids and Kalamazoo-Portage SMSAs are the two exceptions, but those areas also experienced relatively mild contractions during the recession. By the end of 1978, construction employment had failed to reach pre-recession levels in four areas: Ann Arbor–Ypsilanti, Battle Creek, Jackson, and Lansing–East Lansing. The latter area has exhibited the most sluggish upward trend.

BANKING

In the banking sector, the Bay City SMSA suffered the most severe downswing during the recession in deflated demand and total deposits (current dollar values adjusted for price changes), with declines of 31.8 percent and 17.8 percent, respectively. The Saginaw SMSA, in contrast, experienced the mildest setbacks in these two series, despite a rather sizable drop in employment. The Flint SMSA, another volatile area in terms of employment and building activity, did not exhibit extreme declines in banking activity. Deflated total deposits fell 13.4 percent in the Flint SMSA, and the current dollar volume of total loans fell 4.8 percent. In comparison, the Kalamazoo-Portage SMSA, a much more stable area in terms of employment, experienced slightly greater declines in deflated total deposits and total loans during the recession—14.7 and 5.1 percent, respectively. The Battle Creek SMSA, which also experienced relatively mild declines in employment, suffered substantial drops in total loans, commercial and industrial loans, and consumer installment loans. In the latter case, the Battle Creek area experienced a decline of 32.5 percent in current dollar volume, the largest contraction by far among the eleven SMSAs, whereas the adjacent Kalamazoo-Portage SMSA suffered no decline during the recession. Also, along with several other areas, the Kalamazoo-Portage SMSA experienced no measurable cyclical decline in commercial and industrial loans.

Table 3 shows that banking activity picked up substantially during the recent business expansion, except for deflated demand deposits. The latter have increased at a rather sluggish pace, and by mid-1978 they were still below pre-recession peaks in all Michigan metropolitan areas. Although deflated total deposits rose during the business expansion, they were below their previous peaks in all areas except the Ann Arbor–Ypsilanti, Grand Rapids, and Saginaw SMSAs. The current dollar volume of loans has expanded considerably in all areas since the most recent recession. Table 3 shows that the greatest relative increase occurred in the Bay City SMSA, where the current dollar volume of total loans has risen 89 percent since the recession, and commercial and industrial loans and consumer installment loans have more than doubled.

In summary, banking activity in Michigan SMSAs exhibited varying degrees of cyclical sensitivity during the period examined. Only three areas—Ann Arbor–Ypsilanti, Muskegon, and Saginaw—escaped absolute declines in the current dollar volume of total loans during the 1973–1975 recession. Also, the Kalamazoo-Portage SMSA was the only metropolitan area in which consumer installment loans did not fall during that slump. All areas, however, experienced declines in the deflated values of total and demand deposits, with the latter exhibiting sluggish recoveries.

CONCLUDING REMARKS

The measurements presented above reveal differences in business activity among Michigan metropolitan areas over roughly the past ten years. The amplitude measures show varying degrees of cyclical sensitivity among Michigan SMSAs in terms of labor market, construction, and banking activity. It should be noted that these results refer only to the magnitude of swings in local business activity during those years, and caution is urged regarding generalizations or forecasts about local activity in the future. The measures of local performance presented here, along with the extensive results offered in the forthcoming Upjohn publication, provide considerable information about business activity in the metropolitan economies of Michigan, and these data form a solid base for analyzing business conditions within the state.[2]

CITATIONS

1. Paul J. Kozlowski, *Business Conditions in Michigan Metropolitan Areas* (Kalamazoo: Upjohn Institute for Employment Research, 1979).
2. Ibid.

BRIEFS

Yardsticks of well-being in various areas of the country are examined by Peggy J. Ross, Herman Bluestone, and Fred K. Hines in the recently released *Indicators of Social Well-Being for U.S. Counties,* a research report of the U.S. Department of Agriculture. Median family income, the proportion of families with employed male heads not in poverty, school attainment, and proportion of dwelling units with complete plumbing were combined to form Factor I, an indicator of socioeconomic status.

> Areas with high socioeconomic status were concentrated in industrialized urban portions of the Northeast and the west coast and scattered metro areas of the South, Midwest, and Rocky Mountain States. Low socioeconomic status was prevalent in areas with high percentages of minorities (Blacks, American Indians, Mexican-Americans, and Eskimos) and the predominantly White areas of the Ozarks and Appalachia. Socioeconomic status also appeared to be low in some highly agricultural counties of the Northern Plains and upper Midwest, but this may have been due to low farm prices in the base year which depressed median family income (p. 5).

Data for separate counties are reproduced in a supplement entitled *Indexes and Rankings for Indicators of Social Well-Being for U.S. Counties.* With the exception of Alcona, Clare, Houghton, Keweenaw, Lake, Missaukee, Montmorency, Ogemaw, and Oscoda, Michigan counties are above the U.S. average in socioeconomic status.

Factor II, health status, was specified by combining data on mortality from all causes, infant mortality, and mortality from influenza and pneumonia.

> Geographic patterns of U.S. health status . . . were similar to but less pronounced than those of socioeconomic status. Low health status was prevalent among southern counties with large percentages of Blacks and counties of the Southwest and West with large populations of Mexican-Americans, American Indians, and Eskimos. However in comparing geographic patterns of socioeconomic status with those of health status, three general differences are apparent. First, relative to all U.S. counties, health status was low in many northeastern counties, but these same counties were not generally low in socioeconomic status. Second, while many Appalachian counties had both low socioeconomic and health status, low health status was less pronounced. Third, in contrast to the low socioeconomic status of the Ozark counties, these counties generally did not have low health status. According to this index, health status was highest in the highly agricultural, predominantly White areas of the Plains States and the Midwest (p. 6).

Sixty-five of Michigan's eighty-three counties are above the national average in health status. The exceptions are Alger, Arenac, Baraga, Branch, Calhoun, Cass, Chippewa, Gogebic, Hillsdale, Houghton, Keweenaw, Lake, Ontonagon, Ogemaw, Osceola, Schoolcraft, Wayne, and Wexford.

Factor III, family status, was based on the proportion of dependent children living with both parents, the difference in the percentage of men and women in the labor force, and the percentage of families with female heads.

> Geographic patterns of family status . . . were generally similar to patterns of both socioeconomic and health status. As with the first two indexes, low family status was closely associated with high proportions of Blacks in the South, Eskimos in Alaska, and, to a lesser extent, Mexican-Americans and American Indians in the West and Southwest.
>
> Regional indexes of family status were characterized by scores below the national average in both metro and nonmetro counties of the South and scores above the national average in both metro and nonmetro areas of the North Central region. Otherwise, nonmetro areas of the Northeast and West had higher average scores for family status than their metro counterparts in those regions (p. 13).

Thirty Michigan counties were below the U.S. average in family status. They are Alcona, Benzie, Berrien, Branch, Calhoun, Cheboygan, Clare, Crawford, Emmet, Gogebic, Grand Traverse, Houghton, Ingham, Ionia, Iron, Isabella, Jackson, Kalamazoo, Kalkaska, Keweenaw, Lake, Luce, Manistee, Mecosta, Muskegon, Roscommon, Van Buren, Washtenaw, Wayne, and Wexford.

Factor IV is alienation, for which no direct indicators are available at the county level. Instead, the authors used mortality from suicides and cirrhosis of the liver, both of which suggest high levels of personal alienation from group life.

> Geographic patterns of alienation . . . were substantially different from those for the other indexes. Areas of high alienation included a majority of counties in the Rocky Mountain and Pacific States; counties in northern portions of Michigan, Wisconsin, and Minnesota; some counties in Appalachia; the Southern Atlantic area; and upper New England. Counties with low levels of alienation included a large majority of southern counties exhibiting socioeconomic, health, and family status below the U.S. average. Alienation was also generally low in highly agricultural areas of the Plains States (p. 14).

In Michigan, fifty-two counties, nearly two-thirds, evidenced a higher degree of alienation than the U.S. average. Counties in which alienation was below the U.S. average are Allegan, Alpena, Antrim, Barry, Benzie, Clair, Clinton, Delta, Eaton, Emmet, Gladwin, Gratiot, Ingham, Isabella, Jackson, Kalkaska, Kent, Leelanau, Mackinac, Macomb, Mason, Midland, Missaukee, Monroe, Oceana, Ottawa, Saginaw, Sanilac, Schoolcraft, Tuscola, and Wexford.

According to the most recent analysis by the *Chronicle of Higher Education* (9 October 1979), Michigan ranked 35th in **annual appropriations for higher education,** gauged by ability to pay. The yardstick showed that Lansing appropriated $10.37 per $1,000 of personal income in the state, compared with a national average of $11.16. Highest was Mississippi, with $17.59. New Hampshire appropriated least, $4.65.

In the percentage of increase in higher education appropriations between the academic years 1977–1978 and 1979–1980, Michigan ranked 23rd, with 22 percent. The national figure was 24 percent. California was first with 43 percent, and New Hampshire last with 8 percent.

The number of **local government employees** in Michigan per 100,000 population in 1977 varied from 790 in Mackinac County to 201 in Isabella. Most of the top twenty counties in the ranking are in northern Michigan, the exceptions being Branch and Ingham. All of the top five are Upper Peninsula counties. For Michigan as a whole, there were 347 local government employees per 100,000 inhabitants. The national figure was 355.

Production of raw steel in Michigan totaled 9.4 million tons during the first ten months of 1979, according to information recently released by the American Iron and Steel Institute. This figure represents a decline of 9 percent from the first ten months of 1978. During that period, Michigan produced 9.1 percent of the nation's raw steel. The figure so far this year is 8.1 percent.

Permits for industrial buildings in Michigan totaled $208.5 million during the first six months of 1979, according to the Bureau of the Census, compared with $2,862.5 million nationally. The Michigan figure is 7.3 percent of the national total. During 1978, Michigan accounted for 7.7 percent of total industrial building permits; during 1977, the figure was 7.5 percent.

In share of valuation of permits to build office buildings, Michigan accounted for 3 percent of the total during the first half of this year, compared with 2.7 percent during 1978 and 4.1 percent during 1977.

This state accounted for 4.2 percent of valuation of permits to build mercantile structures during the first six months of 1979, compared with 4.1 percent of the total during 1978 and 4.5 percent during 1977.

Corn prospects have improved since October, and Michigan farmers are now expected to harvest a record corn crop, according to the latest report from the Michigan Agricultural Reporting Service. Production is estimated at 198 million bushels, passing the record of 197 million set in 1977. Yields should average ninety bushels per acre, five bushels above the 1977 high.

Michigan is typical of the nation in this regard. U.S. production is forecast at 7.6 billion bushels, 7 percent above the 1978 record. Yields are expected to average 109 bushels per acre, also a record.

State **soybean production** is expected to reach a record 28.1 million bushels, with yields expected to avera twenty-nine bushels per acre—one bushel short of the 19 record yield, according to the Michigan Agricultural R porting Service. Production should exceed the 1978 lev by 47 percent because of a 21 percent increase in both yield and harvested acreage.

Nationally, soybean production is estimated at 2.24 billion bushels, 20 percent above the 1978 total, the previous record. Average yield is pegged at a record high of 31.8 bushels per acre.

Dry bean production in Michigan is estimated by the Michigan Agricultural Reporting Service at 6.86 million hundredweight, 7 percent above last season. Yields are expected to average 1,400 pounds per acre, seventy pounds shy of the 1963 record but substantially above the 1978 level of 1,150 pounds per acre. U.S. production is forecast at 19.8 million hundredweight, 4 percent more than last year.

Sugarbeet production in this state is estimated by the Michigan Agricultural Reporting Service at 1.6 million tons, a drop of 10 percent for 1978, due primarily to dry fall weather. The average yield declined to 17.5 tons per acre, compared with 18.5 tons per acre last year. U.S. production is forecast at 22 million tons, 14 percent less than the 1978 crop.

Each month since July, the Michigan Agricultural Reporting Service has been making **forecasts of acreage, yield, and production of the state's row crops,** principally corn, soybeans, dry beans, and sugarbeets. During the last few weeks of harvest, a survey was conducted to determine final acreage and production of these crops. About 6,000 farmers across the state were asked to provide information about their 1979 acreage and production by completing and returning a form mailed to them. Telephone calls were made to many of those who did not respond by mail.

Similar surveys will be completed in most states. Final national and state estimates will be released in mid-January and will be available in future issues of the Michigan Agricultural Reporting Service Report, *Agriculture Across Michigan.*

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CONGRESS INFO SERV 039058 WG
ATTN ED KIANKA 1
7101 WISCONSIN AVE
WASHINGTON DC 20014
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1980: HARD LANDING FOR MICHIGAN

by DAVID I. VERWAY, ***Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University.***

Michigan alone experienced a decline in total personal income between the first and second quarters of 1979, according to the latest tabulations by the Bureau of Economic Analysis. This followed a first quarter tie among Michigan and six other states for thirteenth place in percentage *gain*. The turnabout here was centered in durable goods manufacturing. Service sectors as a group also experienced some deceleration, as did nondurable goods manufacturing. Growth in the Wolverine State's construction sector accelerated during the second quarter at a rate well above the national average, and in mining the state held its own.

The Bureau of Economic Analysis is an agency within the U. S. Department of Commerce in Washington, D.C. Its major activity is the compilation of statistics on the nation's economy. Personal income, the broadest measure of economic activity for states, consists of wages, salaries, other labor income; interest and dividends received by individuals; and transfer payments. Transfer payments include Social Security benefits, private pension benefits, unemployment compensation, welfare payments, and other amounts received by households which entail no current effort.

A more timely but less definitive comparison of economic performance can be developed from monthly job data. These are prepared by state employment agencies in cooperation with the Bureau of Labor Statistics, a component of the U. S. Department of Labor. Between October 1978 and October 1979 these data reveal that, with its 2 percent decline, Michigan ranked last in job growth in the nonfarm sector of the private economy.

By a variety of yardsticks, Michigan is in a slump. The nation was not as 1979 reached its end. The figures in Table 1 have been assembled to emphasize the point and to illustrate the doggedness of the erosion that began here in April.

AROUND THE STATE

Encouraged by the demand for large cars, General Motors and Ford added more than 35,000 jobs in this state between the first quarter of 1978 and the first quarter of 1979. Chrysler, on the other hand, was in trouble even before lines formed at gasoline stations in California last spring. Production problems bedeviled the company; then the new large cars were poorly received when they did become available. During the first quarter of 1979, Chrysler employment in this state was approximately 3,500 below that of the same period a year earlier.

The city of Detroit has several Chrysler plants; consequently, its economy started to sag early. Detroit suburbs weathered the state's general malaise until midsummer. Outstate, Michigan retailers were affected by reduced travel brought on, in part, by uncertainty among Detroit area workers. They are the largest component of this state's northern tourism market. In addition, nearby Indiana, Illinois, and Ohio, home of another large component of visitors to northern Michigan, also were affected by the automotive slump, although not to the same degree as was Michigan.

Alone in the Midwest, Wisconsin enjoys a stable growth trajectory; however, it has its own northern vacationland and is not a big factor in Michigan's travel market.

In the Upper Peninsula, Chippewa County still is reeling from the closing of Kincheloe Air Force Base. A poor summer tourist season is reflected in the employment data for several Upper Peninsula counties, particularly Mackinac. In Marquette County, construction employment plummeted after completion of projects at Cleveland Cliffs, an iron ore mining company.

The poor tourist season had its greatest impact in Roscommon County, located near the center of the northern lower peninsula. In nearby Grayling, the loss of Bear Archery, its largest employer, gave Crawford County the

TABLE 1
Year-to-Year Change in Selected Economic Indicators of Economic Activity

Indicator	*Percentage change from previous year*										
			1979								
	Last quarter 1978	*First quarter 1979*	*April*	*May*	*June*	*July*	*August*	*September*	*October*	*November*	*December*
Civilian employment											
United States	3.9	3.8	2.7	2.5	2.2	2.8	2.2	2.7	2.1	2.0	2.2
Michigan	2.6	2.2	− .1	3.2	2.9	3.5	3.1	1.6	1.6	1.6	− .7
Detroit area[a]	2.1	1.3	− .9	3.1	2.7	3.0	2.3	1.1	.8	.7	
Outstate[b]	2.8	3.0	.6	3.2	3.0	3.9	3.9	2.1	2.4	2.5	
Wage and salary jobs[c]											
United States	4.7	4.6	3.6	3.7	3.5	3.5	3.2	3.1	2.9	2.7	
Michigan	3.1	3.3	1.1	1.6	1.4	.9	− .3	− 1.0	− 1.1	− 1.7	
Detroit area[a]	2.5	2.4	− .2	.9	.5	—	− 1.8	− 2.3	− 2.5	− 3.2	
Outstate[b]	3.7	4.1	2.5	2.4	2.3	1.9	1.3	.4	.2	− .2	
Average workweek[d]											
United States	.4	1.4	− 3.7	− .7	− .7	− .7	− 1.0	− 1.2	− 1.0	− 1.7	
Michigan	1.6	2.1	−12.9	− .9	− 2.6	− 4.2	− 4.7	− 6.5	− 8.1		
Average weekly earnings[e]											
United States	9.5	10.5	4.3	8.4	8.2	7.8	7.2	6.8	6.8	5.5	
Michigan	10.2	12.4	− 6.0	8.8	5.7	4.4	2.5	− 3.9	− 1.9		
Motor vehicle assembly											
United States	7.1	9.7	−16.8	1.9	− 7.6	− 6.2	−28.8	−22.4	−20.1	−31.8	−33.5
Michigan	11.0	14.5	−17.9	− 1.3	− 5.1	−13.3	−30.6	−27.8	−46.8	−29.8	−41.1
General Motors	10.0	20.4	− 5.2	10.5	− .4	−14.2	−14.9	−24.2	−52.4	−17.8	−27.6
Ford	19.3	19.4	− 7.5	− 8.0	−12.0	18.2	−28.9	−17.8	−18.2	−28.3	−51.4
Chrysler	5.2	− 8.0	−61.1	−24.2	−12.9	−41.6	−76.2	−53.6	−62.4	−64.8	−69.1
Steel tonnage poured											
United States	17.7	10.4	5.8	3.8	3.1	3.8	− 2.1	− 8.1	−10.7	−14.2	
Michigan	23.1	20.6	22.4	13.7	7.8	− 1.0	.2	−13.8	−20.5	−18.2	
Commercial electricity consumption											
United States	4.0	5.3	6.7	6.7	1.0	− .2	.5	− .6	2.1		
Michigan	4.2	6.1	6.1	8.7	3.0	3.5	1.0	− 5.2	1.0		
Industrial electricity consumption											
United States	6.0	8.8	8.9	5.7	3.5	3.8	2.4	− .1	1.5		
Michigan	5.8	10.9	− 2.1	3.5	1.7	.5	− 6.3	− 7.6	−10.1		
Nonresidential construction contracts											
United States	15	28	23	1	22	1	10	− 6	14	− 6	
Michigan	− 7	62	30	35	162	−17	2	—	− 5	28	
Residential construction contracts											
United States	18	13	−13	4	− 8	3	− 2	4	− 3	−21	
Michigan	17	8	− 3	15	7	−10	24	− 6	−25	−24	
Nonbuilding construction contracts											
United States	26	24	81	−32	19	− 9	−40	−11	−41	7	
Michigan	46	−50	55	− 3	−17	−67	−79	−82	28	−70	
Retail Sales											
United States	11.5	13.5	10.3	9.1	7.3	8.1	12.3	9.4	11.3	11.3	
Michigan		17.0	11.2	9.5	7.2	7.8	6.4	3.0	5.4		
Detroit area[a]		18.7	14.0	9.5	9.2	11.1	5.6	1.7	1.6		
Detroit city		8.6	4.2	4.2	1.3	6.1	1.0	− 3.6	− 5.8		
Suburbs		21.0	16.2	10.8	10.9	12.2	6.6	2.8	3.1		
Outstate[b]		15.1	7.8	9.3	4.8	4.2	7.3	4.5	10.1		

SOURCE: Michigan Employment Security Commission, special release, Bureau of Labor Statistics, *The Employment Situation* (monthly); Motor Vehicle Manufacturers Association, special release; American Iron and Steel Institute, special release; Energy Information Administration, special release; F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases (monthly); and Bureau of the Census, *Monthly Retail Trade*.

[a] Wayne, Oakland, Macomb, Livingston, Lapeer, and St. Clair counties.

[b] Michigan minus Detroit area.

[c] The number of wage and salary jobs, except agricultural, reported by employers.

[d] Average hours worked by manufacturing production workers.

[e] Average earnings among manufacturing production workers.

distinction of being the biggest job loser in the state, in percentage terms. At the other extreme, Cheboygan County had the state's most robust economy due to an increase in its trade and service base. Otsego County, second most expansive, also hosts several new stores and an active industrial park.

Among the major labor markets, the Ann Arbor-Ypsilanti area experienced the highest relative employment gain (Table 2), aided by the success of GM's new front-wheel-drive compact car. Ypsilanti is an assembly point for that car as well as headquarters of the Hydra-Matic Division. Retailing, services, transportation, wholesale trade, finance, state government, and federal employment also were expansive, so Ann Arbor's growth is broadly based and not owing to the fortunes of a single vehicle. Ford and Chrysler also have sizable manufacturing facilities in Washtenaw County.

The Lansing-East Lansing area posted employment gains on a wide front, enabling it to grow despite sluggishness in its automotive sector. The same can be said for the Muskegon area, Kalamazoo, Grand Rapids, Bay City, Saginaw, and Flint. The Jackson economy was bolstered by activity in machinery manufacturing, construction, public utilities, services, and government. Here, too, vehicle suppliers were laying off workers. Wholesale and retail trade also contracted during the year. The Benton Harbor area has a sagging manufacturing base; overall its employment level slipped between 1978 and 1979.

TABLE 2
Michigan Labor Markets Listed According to Ranking in Percentage Change in Nonfarm Jobs, Annual Average: 1978–1979

County or counties	*Percentage change*	*County or counties*	*Percentage change*
Cheboygan	+18.8	Iron	+ .8
Otsego	+ 6.7	Presque Isle	+ .8
Alger	+ 6.4	Delta	+ .7
Benzie	+ 5.5	Mason	+ .6
Gogebic	+ 4.3	Clare	+ .5
Antrim	+ 4.1	Ontonagon	0
Isabella	+ 3.9	Tuscola	0
Washtenaw	+ 3.9	Berrien	− .3
Allegan	+ 3.2	Lenawee	− .3
Grand Traverse, Kalkaska, Leelanau	+ 3.0	Lapeer, Livingston, Macomb, Oakland, St. Clair, Wayne	− .6
Missaukee, Wexford	+ 2.9	Dickinson	− 1.3
Montcalm	+ 2.9	Huron	− 1.4
Clinton, Eaton Ingham, Ionia	+ 2.8	Montmorency	− 1.4
Muskegon, Oceana	+ 2.8	Branch	− 1.7
Luce	+ 2.5	Menominee	− 1.7
Kalamazoo, Van Buren	+ 2.5	Alpena	− 1.8
Jackson	+ 2.4	Manistee	− 1.8
Midland, Gladwin	+ 2.4	Marquette	− 2.0
Kent, Ottawa	+ 2.2	Cass	− 2.1
Ogemaw	+ 2.1	Oscoda	− 2.2
Bay	+ 2.0	Mecosta	− 2.2
Newaygo	+ 2.0	Gratiot	− 2.7
Osceola	+ 1.8	Alcona, Iosco	− 3.1
Saginaw	+ 1.8	Schoolcraft	− 3.2
Charlevoix	+ 1.6	Sanilac	− 4.0
St. Joseph	+ 1.6	Mackinac	− 4.4
Genesee, Shiawassee	+ 1.3	Lake	− 5.1
Baraga	+ 1.1	Arenac	− 6.6
Emmet	+ 1.1	Roscommon	− 7.2
Houghton, Keweenaw	+ 1.0	Chippewa	− 8.9
Barry, Calhoun	+ 1.0	Crawford	−11.8
Hillsdale	+ .9	Michigan	+ .6

SOURCE: Developed from Michigan Employment Security Commission, special release.

The six-county Detroit area is the other of this state's major labor markets that suffered declining wage and salary employment. The Chrysler problem alone cost the area approximately 15,000 jobs in local assembly and parts plants. This estimate is based on the difference between Chrysler's average employment during 1978 and 1979, and the author's judgment that every job at this corporation entails a job at an independent supplier. (More so than either GM or Ford, Chrysler depends on outsiders for automotive components.) It is also assumed that one-third of the employment associated with supplying Chrysler's Detroit operations is in the Detroit area.

THE OUTLOOK

Due largely to the depressed market for large cars, 1980 wage and salary employment in every one of Michigan's metropolitan areas is expected to be less than the 1979 average. The six-county Detroit job total will shrink by 65,000, on average—a decline of 3.6 percent.

Least affected among the metropolitan regions will be the four-county Lansing area. Besides the home plant of Oldsmobile, one of the automakers least affected in the current slump, this area includes Michigan State University and the bulk of state government in its economic base. Moreover, it enjoys a residential-industrial-building boom soon to include a GM diesel engine plant.

The job level in the Grand Rapids area (Kent and Ottawa counties) is expected to slip because of the area's ties with Detroit. The same is true for Kalamazoo and Battle Creek. Normally, these three areas would gain 2 to 3 percent due to new investment in factories, stores, and other enterprises in the private sector.

Ann Arbor, Bay City, Jackson, Benton Harbor, and Muskegon are expected to experience job declines of 1 to 2 percent, Flint and Saginaw of 2 to 2.5 percent, all as a result of their automotive connections.

Major developments in the Upper Peninsula include the planned expansion of the Mead Paper factory in Escanaba, which should eventually add 100 jobs in the mill, the announcement by Champion of a new sawmill in Quinnesec, and the realignment of operations at Cleveland Cliffs. Other news affecting the Upper Peninsula is the embargo on exports to Iran (Harnischfeger, a heavy equipment manufacturer in Escanaba, counted Iran among its markets), and the revival of the copper market (the White Pine Mine in Ontonagon County is a major producer).

Everything considered, Upper Peninsula employment should gain modestly during 1980. Ontonagon County is expected to be the growth leader, with Iron County second. American Motors Corporation has a wire harness plant there. Marquette also should resume its growth, principally in retailing and services. Nine of the Upper Penin-

(Continued on page 6)

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.6	40.6	40.8 (Oct.)
Average weekly hours, U.S.	40.6	40.3	40.3 (Oct.)
Average hourly earnings, Michigan ($)	8.47	8.74	8.92 (Oct.)
Average hourly earnings, U.S. ($)	6.33	6.80	6.82 (Oct.)
U.S. motor vehicle production (units)	913,583	819,068	607,205 (Dec.)
Michigan electricity usage (mil. kwh.)	6,080	5,823	5,701 (Oct.)
Industrial (mil. kwh.)	2,963	2,695	2,679 (Oct.)
Residential (mil. kwh.)	1,772	1,759	1,652 (Oct.)
Raw steel production:			
Michigan (000 net tons)	920	823	753 (Nov.)
United States (000 net tons)	11,654	10,810	9,997 (Nov.)
Consumer price index (1967 = 100)			
Detroit area	202.7	227.2	231.3 (Nov.)
United States	202.0	225.4	227.5 (Nov.)
U.S. wholesale price index (1967 = 100)	217.5	246.9	249.4 (Dec.)
Michigan farm prices received index (1967 = 100)	211	228	231 (Nov.)

Sources: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 11 Months: 1978 and 1979

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	58,086	70,608	+22	85,881	71,118	−17	143,967	141,726	− 2
Battle Creek	40,333	21,325	−47	29,361	35,648	+21	69,694	56,973	−18
Bay City	11,591	10,195	−12	17,490	13,565	−22	29,081	23,760	−18
Detroit	831,548	956,703	+15	1,038,820	1,054,201	+ 1	1,870,368	2,010,904	+ 8
Flint	70,131	80,347	+15	95,672	95,215	—	165,803	175,562	+ 6
Grand Rapids	166,069	256,370	+54	186,812	157,204	−16	352,881	413,574	+17
Jackson	13,968	19,073	+37	23,392	26,588	+14	37,360	45,661	+22
Kalamazoo-Portage	25,721	43,057	+67	77,827	68,942	−11	103,548	111,999	+ 8
Lansing–East Lansing	87,703	94,066	+ 7	112,538	147,660	+31	200,241	241,726	+21
Muskegon–Norton Shores–Muskegon Heights	23,686	20,858	−12	34,748	25,500	−27	58,434	46,358	−21
Saginaw	66,642	35,358	−47	48,114	51,089	+ 6	114,756	86,447	−25
Michigan	1,624,214	1,838,320	+13	2,306,633	2,290,373	—	3,930,847	4,128,693	+ 5
United States	42,033,961	46,961,916	+12	70,231,183	70,451,814	—	112,265,144	117,413,730	+ 5

Source: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

Note: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

[a] Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,743,112,000 and $869,943,000 respectively, or a decrease of 50 percent. U. S. figures for nonbuilding construction contracts were $37,719,739,000 and $36,536,631,000 or a decrease of 3 percent.

Quarterly Motor Vehicle Employment and Assembly

Item	1977				1978				1979		
	1	2	3	4	1	2	3	4	1	2	3
EMPLOYMENT[a]											
Checker											
Michigan	937	1,024	1,102	1,166	1,117	1,118	1,084	1,140	1,207	1,194	1,182
Chrysler											
Michigan	78,225	83,490	82,701	84,047	78,744	82,799	75,187	81,664	75,316	70,238	58,182
United States	127,420	135,089	135,039	137,286	131,066	136,158	125,989	135,997	125,899	118,532	99,754
Ford[b]											
Michigan	116,901	117,858	118,775	124,098	124,187	127,148	126,300	135,377	132,298	129,526	117,630
United States	216,631	223,031	222,119	233,911	234,635	239,517	233,314	253,536	245,253	240,054	211,763
General Motors											
Michigan	245,000	265,000	252,000	280,000	264,000	278,000	267,000	289,000	295,000	296,000	291,000
United States	545,000	586,000	564,000	624,000	588,000	619,000	594,000	643,000	644,000	650,000	582,000
ASSEMBLY											
Dearborn	36,138	28,695	39,828	37,107	40,230	70,007	39,072	83,017	96,572	92,774	85,970
Detroit	158,881	131,092	126,505	126,739	130,969	140,723	54,857[c]	89,563[c]	130,475[c]	113,866[c]	56,399[c]
Detroit (truck)	6,935	8,368	8,667	7,577	7,587	11,443	11,142	30,753[c]	33,693[c]	28,503[c]	12,861[c]
Flint	113,976	124,983	53,905	100,181	93,380	104,042	76,157	109,192	115,405	110,135	56,914
Flint (truck)	90,967	90,812	109,197	103,976	107,414	116,436	103,549	104,839	114,846	95,075	60,985
Hamtramck	71,130	100,421	94,246	72,429	56,098	86,545	56,808	54,230	44,901	62,806	15,345
Kalamazoo	1,416	952	1,314	1,095	1,361	1,036	809	1,019	1,134	1,268	1,203
Lansing	116,694	119,021	45,921	99,322	93,080	110,381	62,327	116,726	130,644	130,363	72,684
Pontiac	93,687	102,368	29,710	83,219	75,104	87,334	61,666	82,652	91,712	85,977	46,578
Pontiac (bus & truck)	24,832	31,661	38,253	40,474	55,041	67,569	61,741	72,398	77,144	73,922	51,628
Warren (bus & truck)	89,437	90,185	78,855	70,738	76,322	94,415	72,181	84,504	76,365	48,873	5,027
Wayne	73,887	76,680	59,823	67,939	76,242	76,599	63,214	55,607	50,477	46,765	34,081
Wayne (truck)	50,623	51,778	32,905	50,706	53,462	56,436	48,390	52,388	56,052	51,994	21,305
Wixom	50,537	52,483	43,875	43,677	42,915	47,639	36,508	46,902	51,132	36,527	20,013
Ypsilanti	55,583	70,270	69,327	62,270	60,220	73,733	57,178	38,891	38,797	75,420	73,508
Total Michigan											
Passenger car	771,929	606,795	564,544	693,978	669,599	798,039	508,596	654,346	751,250	755,901	462,695
Bus and truck	262,794	272,804	266,877	273,471	299,826	341,141	297,003	368,325	358,100	298,367	151,806
Total United States											
Passenger car	2,338,735	2,639,036	1,931,390	2,306,400	2,267,474	2,656,507	1,850,701	2,398,411	2,411,307	2,482,907	1,655,546
Bus and truck	857,446	910,930	849,649	850,989	865,427	1,019,266	851,996	982,232	1,024,655	916,996	529,092
Total Canada											
Passenger car	325,841	362,147	196,129	282,256	289,695	345,842	229,593	297,157	307,823	281,806	171,427
Bus and truck	152,857	162,803	113,923	171,998	171,127	185,031	120,199	180,355	200,162	190,698	107,988

Source: Ward's *Automotive Reports;* Motor Vehicle Manufacturers Association of the United States, Inc., P-I report; and companies.

a. Average monthly wage and salary employment of companies with assembly plants in Michigan; includes nonautomotive.

b. Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

c. Chrysler's Jefferson Avenue plant has been converted to truck production. The plant had no production during July and August and began assembling trucks during the latter part of September.

1980: Hard Landing for Michigan

(Continued from page 3)

sula's fourteen labor markets are expected to post job gains during 1980.

In the northern lower peninsula, Cheboygan should continue to grow, although at a slower rate than in 1979. Arenac and Otsego counties and the three-county Traverse City region also will make solid gains. Several counties are linked to Detroit as automotive suppliers and will be affected accordingly. This is particularly true of Antrim, Clare, Montcalm, Manistee, Mason, Charlevoix, and Emmet counties and the Cadillac area (Missaukee and Wexford counties). These and several other northern Michigan counties can anticipate another slump induced, languid summer tourist season following this winter's hiatus caused by lack of snow.

Along Michigan's southern border, Lenawee, Hillsdale, and St. Joseph counties will feel the effects of the automotive slump. The same is true of the Thumb area.

The month-by-month job scenario for the state as a whole shapes up as shown in Table 3. The depressed first quarter indicated in Table 3 is virtually guaranteed by vehicle assembly schedules already announced and by the paucity of snow at ski resorts. The employment forecast is based, in part, on a projection of 9 percent fewer vehicle assemblies in this state. Michigan's unemployment rate will approach 15 percent by April and average better than 10 percent for the year as a whole. During December it will stand at approximately 7 percent compared with 8.5 percent during December 1979.

The above analysis is based on responses to a survey of regional economists, chambers of commerce, Michigan Employment Security Commission analysts, and employers, along with the author's hunches, insights, and intuition. The results are summarized in Table 4.

A survey of the state's commercial banks and savings and loan associations produced results that are summarized in Tables 5, 6, 7, and 8. These data reinforce the conclusion that southern Michigan will experience a slowdown during 1980. However, bankers in the southeast portion of the region seem to be slightly less pessimistic than bankers in the other metropolitan centers. This could be

TABLE 3
Michigan Job-Total Changes in 1979–1980

	1979	*1980*	*Percentage change*
January	3,589,400	3,463,000	− 3.5
February	3,588,200	3,410,000	− 5.0
March	3,599,900	3,423,000	− 4.9
April	3,580,700	3,438,000	− 4.0
May	3,644,000	3,467,000	− 4.9
June	3,645,000	3,488,000	− 4.3
July	3,577,600	3,473,000	− 2.9
August	3,512,300	3,504,000	− .2
September	3,579,900	3,554,000	− .7
October	3,608,100	3,583,000	− .7
November	3,597,300	3,591,000	− .2
December	3,558,100	3,600,000	+ .3
Average	3,590,000	3,500,000	− 2.5

TABLE 4
Michigan Labor Markets Listed According to Ranking in Forecast of Job Change: 1979–1980

Name of area	*Counties included*
5 percent or more growth	
Cheboygan	Cheboygan
Ontonagon	Ontonagon
Midland	Midland, Gladwin
Standish	Arenac
2.5 to 4.9 percent growth	
Iron River	Iron
Gaylord	Otsego
Newaygo	Newaygo
Sault Ste. Marie	Chippewa
Traverse City	Grand Traverse, Kalkaska, Leelanau
.1 to 2.4 percent growth	
Marquette	Marquette
L'Anse	Baraga
Escanaba	Delta
Big Rapids	Mecosta
Allegan	Allegan
Mt. Pleasant	Isabella
Roscommon	Roscommon
East Tawas	Alcona, Iosco
Alpena	Alpena
Iron Mountain	Dickinson
Menominee	Menominee
Houghton, Hancock	Houghton, Keweenaw
No growth to 2.4 percent decline	
Baldwin	Lake
St. Ignace	Mackinac
Reed City	Osceola
Manistique	Schoolcraft
Lansing, East Lansing	Clinton, Eaton, Ingham, Ionia
Grand Rapids	Kent, Ottawa
Kalamazoo, Portage	Kalamazoo, Van Buren
Bay City	Bay
Rogers City	Presque Isle
Dowagiac	Cass
Battle Creek	Barry, Calhoun
Jackson	Jackson
Petoskey	Emmet
Benton Harbor	Berrien
Ann Arbor	Washtenaw
Muskegon, Norton Shores, Muskegon Heights	Muskegon, Oceana
Flint	Genesee, Shiawassee
Mio	Oscoda
Saginaw	Saginaw
2.5 to 4.9 percent decline	
Newberry	Luce
Greenville	Montcalm
Ludington	Mason
Caro	Tuscola
Manistee	Manistee
Frankfort	Benzie
Ironwood	Gogebic
Alma	Gratiot
Bad Axe	Huron
West Branch	Ogemaw
Cadillac	Missaukee, Wexford
Detroit	Lapeer, Livingston, Macomb, Oakland, St. Clair, Wayne

TABLE 4 (con't)

Name of area	*Counties included*
Three Rivers	St. Joseph
Atlanta	Montmorency
Sandusky	Sanilac
5 percent or more decline	
Munising	Alger
Charlevoix	Charlevoix
Grayling	Crawford
Hillsdale	Hillsdale
Clare	Clare
Adrian	Lenawee
Mancelona	Antrim
Coldwater	Branch

NOTE: Growth is based on annual average for 1979 and 1980. Monroe County is part of the Toledo, Ohio, labor market. No forecast has been prepared for this area by this author.

TABLE 5
Results of a Year-End 1979 Survey of Michigan Commercial Banks, Asset Change: 1978–1979 Actual and 1979–1980 Forecast

	Number of Banks		*Percentage of*	*Percentage change in year-end assets*	
Area	*Queried*	*Reporting*	*assets*[a]	*1978 1979*[b]	*1979 1980*[c]
Southeast					
Oakland	23	9	[illegible]	+ 6.9	+ 4.9
Macomb	11	5	32	+10.8	+16.8
Washtenaw	13	4	15	+ 5.9	+ 8.1
Wayne	25	10	90	+ 8.3	+ 6.3
Other	17	5	15	+ 8.7	+10.4
Total	89	33	78	+ 8.3	+ 6.4
South Central					
Genesee	8	4	93	+ 5.9	+ 2.2
Ingham	10	3	81	− 1.3	+ 1.5
Other	32	7	21	+ 4.7	+ 4.2
Total	50	14	67	+ 2.2	+ 2.0
Southwest					
Total	39	8	9	+10.5	+ 8.4
East Central					
Huron	7	4	40	+11.6	+11.2
Other	42	13	44	+ 5.9	+ 5.7
Total	49	17	44	+ 6.4	+ 6.2
West Central					
Kent	16	3	76	+ 6.6	+ 3.6
Montcalm	6	4	48	+10.5	+ 8.8
Other	31	6	21	+ 5.8	+ 7.6
Total	53	13	59	+ 6.6	+ 4.3
Northern Lower					
Total	36	13	49	+ 9.1	+11.2
Upper Peninsula					
Total	50	14	21	+ 6.5	+ 7.2
Michigan Total	366	112	67	+ 7.3	+ 5.8

NOTE: Southeast includes Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. South Central includes Clinton, Eaton, Genesee, Hillsdale, Ingham, Jackson, Lapeer, Lenawee, and Shiawassee counties. Southwest includes Barry, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, and Van Buren counties. East Central includes Arenac, Bay, Clare, Gladwin, Gratiot, Huron, Iosco, Isabella, Midland, Ogemaw, Roscommon, Saginaw, Sanilac, and Tuscola counties. West Central includes Allegan, Ionia, Kent, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, and Ottawa. Northern Lower includes Manistee, Wexford, Missaukee, Benzie, Grand Traverse, Kalkaska, Leelanau, Antrim, Crawford, Oscoda, Alcona, Otsego, Alpena, Montmorency, Presque Isle, Cheboygan, Charlevoix, and Emmet counties. Upper Peninsula includes Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft.

a. Assets of reporting banks as a percentage of assets of queried banks.

b. Estimated by banks.

c. Forecast by banks.

TABLE 6
Results of a Year-End Survey of Michigan Savings and Loan Associations, Asset Change: 1978–1979 Actual and 1979–1980 Forecast

	Number of Savings and Loan Associations		*Percentage of*	*Percentage change in mid-year assets*	
Area	*Queried*	*Reporting*	*assets*[a]	*1978–1979*	*1979–1980*
Southeast					
Washtenaw	3	3	100	+20.5	+ 7.6
Wayne	9	3	82	+13.6	+ 8.0
Other	10	3	10	+18.4	+ 6.2
Total	22	9	48	+15.2	+ 7.8
South Central					
Total	8	7	91	+10.8	+ 6.6
Southwest					
Calhoun	3	3	100	+12.9	+11.7
Kalamazoo	3	3	100	+ 8.4	+ 4.9
Other	11	4	38	+ 5.3	+ 5.2
Total	17	10	69	+ 8.1	+ 5.9
Other	18	5	33	+15.2	+ 5.9
Michigan Total	65	31	50	+13.9	+ 7.2

a. Assets of reporting associations as a percentage of assets of queried associations.

interpreted as an indication that small business (judged by the volume of loans and discounts outstate) will be more severely constrained by Michigan's slump than large business (judged by the volume of loans and discounts in the southeast).

Savings and loan associations, on the other hand, appear to do better outstate, reflecting, perhaps, smaller declines in employment and income in those areas with obvious implications for deposit and mortgage activity.

BEYOND 1980

This analysis assumes an upbeat 1981 model year for automakers—including Chrysler Corporation. Obviously, December 1980 employment in Michigan could not exceed the December 1979 figure, as forecast, without that organization. If 1981 is unkind to Chrysler, it seems unlikely the company will survive in its present form. Even assuming survival, Chrysler appears to have excess engine and assembly capacity, particularly in Detroit or Windsor.

Large Chrysler engines are made in Detroit (Mound Road) and Windsor. (The Trenton plant just outside Detroit is being converted to produce small engines for the new K car.) Large cars are assembled in Detroit (Lynch Road) and Windsor (the Cordoba-Magnum plant). Light trucks are assembled in Warren, Michigan, and Windsor. Production at the Jefferson Avenue plant will be halted, perhaps in April, for conversion to assembly of the K car. Currently, light trucks are assembled there.

Michigan Army Missile Plant, now operated by LTV Corporation, will cease production in October. The market for the plant's Lance missiles no longer justifies production. This point is raised because the facility would be suitable for automobile assembly should a foreign company opt for a Detroit area location. The building is located in Sterling Heights.

Detroit's fortunes also are linked to a number of other antiquated plants, including the Uniroyal factory and Parke

TABLE 7
Results of a Year-End Survey of Michigan Commercial Banks, Percentage Changes in Loans and Discounts, Demand Deposits, and Time Deposits: 1978–1979 Actual and 1979–1980 Forecast

	Loans and discounts		*Demand deposits*		*Time deposits*	
Area	*1978–1979*	*1979–1980*	*1978–1979*	*1979–1980*	*1978–1979*	*1979–1980*
Southeast						
Oakland	+ 9.8	+ 9.1	+ 3.1	+10.6	+ 2.4	+ 8.4
Macomb	+12.4	+ 9.6	+19.5	+16.9	+15.9	+21.8
Washtenaw	+ 5.7	+20.6	+ 8.2	+ 7.1	+18.3	+ 9.2
Wayne	+14.2	+ 7.1	+ 2.8	+ 2.6	− 2.5	+ 5.4
Other	+ 9.8	+ 8.3	− .7	+ 9.1	+13.9	+10.6
Total	+13.8	+ 7.3	+ 3.0	+ 3.2	− 1.5	+ 6.1
South Central						
Genesee	+10.4	+ 2.2	+ 4.9	+ 3.9	+10.1	− .3
Ingham	+ 3.9	+10.7	+ .1	+ 3.8	+11.9	+10.7
Other	+11.2	+ 3.1	+ 1.0	+ 4.1	+ 9.2	+ 5.3
Total	+ 7.2	+ 6.5	+ 1.9	+ 3.9	+10.8	+ 5.2
Southwest						
Total	+ 8.6	+ 6.3	+11.5	+ 5.4	+13.7	+ 9.6
East Central						
Huron	+ 7.6	+ 9.9	− 2.1	+ 5.2	+10.6	+11.0
Other	+ 9.5	+ 4.4	+ .2	− 3.1	+ 8.0	+ 7.1
Total	+ 9.4	+ 4.7	0	− 2.6	+ 8.2	+ 7.4
West Central						
Kent	+11.5	+ 6.0	+ 3.2	+ 3.1	+ 5.7	+ 4.4
Montcalm	+10.4	+ 4.0	+10.1	+ 5.8	+18.4	+ 8.7
Other	+ 4.9	+ 6.1	− 3.5	+ 3.4	+ 5.4	+ 8.8
Total	+10.5	+ 5.9	+ 2.6	+ 3.4	+ 6.2	+ 5.2
Northern Lower						
Total	+ 8.2	+ 9.7	+ 5.9	+ 8.7	+ 9.3	+11.6
Upper Peninsula						
Total	+ 8.8	+ 6.1	+ 6.4	+ 2.7	+11.3	+ 8.3
Michigan Total	+12.2	+ 7.1	+ 2.9	+ 3.2	+ 2.2	+ 6.2

TABLE 8
Results of a Year-End Survey of Michigan Savings and Loan Associations, Percentage Changes in Total Savings and in Mortgage Loans and Land Contracts: 1978–1979 Actual and 1979–1980 Forecast

	Percentage change in mortgage loans and land contracts		*Percentage change in savings capital*	
Area	*1978–1979*	*1979–1980*	*1978–1979*	*1979–1980*
Southeast				
Washtenaw	+15.3	+ 7.1	+17.4	+13.3
Wayne	+11.5	+ 3.6	+15.8	+ 7.7
Other	+13.0	+ 4.7	+24.1	+ 5.0
Total	+12.2	+ 4.3	+16.9	+ 8.3
South Central				
Total	+11.2	+ 5.0	+11.6	+ 6.6
Southwest				
Calhoun	+14.6	+10.6	+14.8	+11.5
Kalamazoo	+ 8.4	+ 3.7	+ 9.1	+ 8.2
Other	+10.5	+ 6.4	+ 6.9	+ 5.4
Total	+ 9.7	+ 5.4	+ 9.2	+ 7.9
Other	+14.6	+ 5.8	+12.3	+ 9.8
Michigan Total	+12.1	+ 4.7	+14.6	+ 8.9

Davis's pharmaceutical plant in east Detroit, both scheduled for a closing.

Yet even while Detroit's industrial base erodes, Ford and Chrysler are expanding or updating plants in southeast Michigan. General Motors is doing the same and building new plants at sites scattered throughout southern Michigan. These three and a host of other manufacturers are taking advantage of Michigan's favorable tax structure, so much so that the state is in the midst of an investment boom.

However, the likelihood of unemployed Detroiters being employed in these new plants is slender. Most of the plants are remote from Wayne County's inner cities. Race is another factor. A high proportion of the unemployed are blacks who would encounter resistance at their destinations even if they agreed to being uprooted. Regardless of the outcome for Chrysler Corporation, the prospects for Detroit's black work force are not favorable.

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DIVISION OF RESEARCH
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ENERGY UPDATE

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

According to a recent publication from the Federal Energy Data System, Michigan ranked twenty-first among the states in energy consumption per capita in 1960. Louisiana, Wyoming, and Texas, leaders in petroleum and natural gas production and themselves energy intensive, topped the list. Because Wyoming has few people in relation to its geographic expanse, that state also spends considerably more than the average on transportation. Indiana ranks fourth, no doubt because of several steel furnaces and gasoline refineries in the Gary area.

At the bottom of the list appeared the names of several southern states, poor and with relatively little manufacturing, and some eastern states with good mass transit systems (see Table 1). By 1977, some southern states had moved up in the rankings, most noticeably Mississippi (from last to 31), Georgia (from 48 to 26), and South Carolina (from 44 to 25). These states have broadened their economic bases through industrial recruitment, primarily vintage manufacturers from the North. South Carolina also is a leader in attracting foreign direct investment.

When some states move up, others must move down. Every state bordering the Great Lakes has declined in the rankings, particularly Michigan, which fell to 35 in 1977. Table 2 compares Michigan's retreat in energy consumption with the nation as a whole. During the early 1960s, our energy appetite was growing considerably more rapidly than the rest of the nation's, but the rate has been well below the U.S. average since then.

The turnaround essentially reflects the way in which Michigan benefited from the exceptional national prosperity of the mid-1960s and has performed since then. Almost everywhere in the country, unemployment was declining and automobile purchases increased. Nationally, the level of income received by households rose 26 percent, after adjustment for increased prices, and in Michigan the rate of gain was 31 percent between 1960 and 1965. The number of factory hours worked by Michigan production workers jumped by 22 percent, more than double the national figure of 10 percent. The state's growth rate was unsustainable because of capacity limitations as well as a saturated demand for motor vehicles. Also, the South accelerated its recruitment of industry during the 1960s, at the expense of states which hosted outmoded factories. Between 1965 and 1977, the number of production hours in Michigan factories declined by 5 percent, whereas nationally there was no change.

Economic growth during the early 1960s spurred industrial consumption of coal, natural gas, and electricity in Michigan (see Table 3). In the use of energy for transportation, the state's gain was only slightly above the national figure, suggesting that many vacationing Michiganians bought gasoline out of state. This conclusion is reinforced by the statistics in Table 3, which show that energy consumption for commercial purposes grew by only 17 percent in the Wolverine State, compared with 25 percent in the rest of the country. In other words, the data reflect the fact that gasoline stations and other merchants in this state failed to cash in on the mid-1960s boom because, increasingly, vacationers were drawn to other places.

Coal consumption has declined in Michigan since the mid-1960s, whereas nationally the use of this fuel has grown, albeit slowly in com-

TABLE 1
Ranking of States According to Per Capita Energy Consumption: 1960 and 1977

Rank	State	Energy Consumption per capita[a]	
		1960	1977
1.	Louisiana	411	980(2)
2.	Wyoming	393	1,204(1)
3.	Texas	386	655(5)
4.	Indiana	350	468(11)
5.	West Virginia	335	668(4)
6.	Montana	326	503(8)
7.	Utah	319	364(19)
8.	Delaware	309	409(15)
9.	Nevada	301	543(6)
10.	Ohio	296	376(18)
11.	Alaska	290	719(3)
12.	Washington	286	429(14)
13.	Pennsylvania	276	362(21)
14.	Alabama	274	476(9)
15.	Kansas	266	454(12)
16.	Idaho	257	311(33)
17.	Illinois	251	362(20)
18.	Colorado	243	336(27)
19.	North Dakota	237	448(13)
20.	Tennessee	236	336(28)
21.	Michigan	227	306(35)
22.	Iowa	222	345(23)
23.	Maryland	221	269(39)
24.	Oregon	219	313(32)
25.	Kentucky	216	404(16)
26.	Nebraska	216	384(17)
27.	Minnesota	213	319(30)
28.	Oklahoma	212	472(10)
29.	Virginia	212	261(42)
30.	Wisconsin	211	295(37)
31.	New Mexico	210	509(7)
32.	Arizona	209	344(25)
33.	New Jersey	208	240(48)
34.	California	201	269(38)
35.	Maine	201	311(34)
36.	Arkansas	200	355(22)
37.	Massachusetts	198	245(45)
38.	Connecticut	196	244(46)
39.	Missouri	194	322(29)
40.	New Hampshire	194	241(47)
41.	Rhode Island	194	181(50)
42.	South Dakota	187	345(23)
43.	New York	176	235(49)
44.	South Carolina	175	337(25)
45.	North Carolina	166	268(40)
46.	Florida	156	254(43)
47.	Hawaii	156	254(44)
48.	Georgia	151	304(36)
49.	Vermont	150	267(41)
50.	Mississippi	148	317(31)
51.	Dist. of Columbia	132	170(51)
52.	United States	235	355

SOURCE: Developed from U. S. Department of Energy, Energy Information Administration, *Federal Energy Data System (FEDS) Statistical Summary Update* (Washington, D.C.: U. S. Government Printing Office, 1979), Table 1; Bureau of the Census, *Statistical Abstract of the United States, 1978* (Washington, D.C.: U. S. Government Printing Office, 1978), Table 11, and Bureau of the Census, *Current Population Reports*, Series P-25, No. 799 (Washington, D.C.: U. S. Government Printing Office, 1979), Table 1.

a. Millions of British thermal units of energy consumed per capita within the state. The figures in parentheses are the 1977 rankings. States are arrayed according to 1960 rankings.

parison with petroleum, natural gas, and nuclear energy. Electrical utilities and chemical, paper, and transportation manufacturers were the major coal consumers in this state during the early 1960s and remain so today. However, Michigan chemical producers used fewer than one million tons of coal in 1976, the most recent figure, compared with 2.7 million tons during 1962.[1] Consumption among paper companies in the state fell from 1.9 million tons to less than 600,000 tons, and among motor vehicle manufacturers from 1.7 million tons to 1.1 million tons. Coal and coke consumption by the state's iron castings and steel industries also decreased, despite increases in production. Coal's decline appears to be the result of several factors: a shift to other fuels, especially nuclear energy, natural gas, and residual fuel oil (and to electric arc furnaces in basic steel and cast iron); conservation; and a changing industrial base, in that order. In 1965, 95 percent of this state's electricity was made from coal, a figure that now stands at about 65 percent. Moreover, we have become a net importer of electricity during periods of peak demand, such as occurred in 1978.

TABLE 2
Trend in Per Capita Energy Consumption in Michigan and the United States: 1960–1979

Year	Per capita		Michigan as a percentage of United States	
	Michigan	United States	Per capita	Total[a]
1960	227	235	97	4.2
1961	228	235	97	4.2
1962	244	245	100	4.3
1963	253	252	100	4.2
1964	259	261	99	4.2
1965	272	269	101	4.4
1966	285	282	101	4.4
1967	293	298	98	4.3
1968	303	310	98	4.3
1969	310	325	95	4.2
1970	314	334	94	4.1
1971	312	335	93	4.0
1972	328	351	93	4.1
1973	328	357	92	4.0
1974	310	345	90	3.9
1975	314	335	94	4.1
1976	322	348	93	3.9
1977	306	355	86	3.6
1978[b]	327	360	91	3.8
1979[b]	304	359	85	3.5

SOURCE: Developed from U. S. Department of Energy, Energy Information Administration, *Federal Energy Data System (FEDS) Statistical Summary Update* (Washington, D.C.: U. S. Government Printing Office, 1979), Table 1; and Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University, *Michigan Statistical Abstract*, 15th ed., forthcoming (East Lansing: 1980), Table 2.

a. Total energy, not per capita energy consumption.

b. Author's estimates.

Natural gas has replaced coal as Michigan's most important fuel source (see Table 4). However, we still consume more coal and less natural gas per capita than the rest of the nation. We use appreciably less petroleum, on average, than the nation, primarily because of a heavier reliance on residual fuel oil elsewhere. This fuel is popular in the East, where it has replaced coal as a boiler fuel in order to satisfy air quality standards. We have about the same degree of nuclear dependence as the rest of the nation. Hydroelectric power is a negligible factor in Michigan's total energy picture.

Energy price data are sketchy. Those for the Detroit area indicate that gasoline, fuel oil, and electricity prices are above the average for large U.S. cities, whereas natural gas sells for less. It seems likely that the same is true of the state in comparison with the nation as a whole. Michigan's major advantage in this regard is its supply

TABLE 3

Percentage Change in Energy Consumption in Michigan and the United States, by Fuel Type and Consumer Type: 1960–1965, 1965–1977, and 1960–1977

	Percentage change					
	Michigan			*United States*		
Gross energy consumption	*1960–1965*	*1965–1977*	*1960–1977*	*1960–1965*	*1965–1977*	*1960–1977*
By fuel type						
Gasoline	23	47	80	17	57	84
Residual fuel oil	(29)	166	90	4	95	103
Distillate	(5)	29	22	9	36	48
Diesel	150	158	545	66	164	339
Jet fuel	38	37	89	66	58	162
LPG	31	140	214	26	64	107
Kerosene	45	(77)	(67)	(2)	(35)	(36)
Coal	32	(18)	8	19	20	43
Natural gas	52	34	103	39	38	92
Nuclear	—	5,615	—	—	6,827	—
Hydro	(8)	(52)	(56)	33	14	51
Other	3	47	51	16	46	70
By end use						
Residential	19	5	25	16	23	43
Commercial	17	44	69	25	45	81
Industrial						
Coal	16	(58)	(52)	9	(37)	(32)
Coke	18	(25)	(11)	17	(17)	(3)
Natural gas	66	41	134	37	42	95
Electric	48	73	156	26	75	120
Total	25	(5)	18	19	26	51
Transportation	27	56	97	25	61	102
TOTAL	28	23	57	23	47	81

SOURCE: Developed from U. S. Department of Energy, Energy Information Administration, *Federal Energy Data System (FEDS) Statistical Summary Update* (Washington, D.C.: U.S. Government Printing Office, 1979), Tables 1, 3, 4, 5, and 6.
NOTE: Parentheses indicate decline.

of natural gas. The state's vast depleted oil and gas fields are used to store gas produced in the Gulf Coast area. That gas is delivered during the summer, when demand is low. Production from native wells satisfies about 15 percent of state demand for gas; for petroleum, the figure is about 5 percent. Self-sufficiency in coal is zero, as Michigan's coalfields are not economical at current prices.

THE NEAR FUTURE

Times are bright for the approximately 3,000 people employed in Michigan's oil and gas extraction industries because of rising prices for their products. However, 1980 shapes up less favorably for the more than 65,000 people who deliver gasoline, read meters, stoke boilers, and perform the myriad other tasks entailed in supplying energy. They will be seriously affected by the general economic slump here.

Consumers can expect rising prices for all forms of energy because of OPEC as well as decontrol at the wellhead. Although it might not seem so to the average American, gas and petroleum prices in this country have been depressed by the cheap energy policy of successive Washington administrations. That policy is no longer viable. Most experts are predicting a rapid inflation in energy prices in early 1980. The rate should diminish by late spring, barring further OPEC hikes and a disruption in supply. It is important to bear in mind the virtue of higher prices in encouraging producers to develop coal, oil, and gas supplies; build new refineries and electric generating plants; and find new ways to provide energy. High prices also have discouraged consumption of petroleum goods, thus curtailing our dependence on imported oil, an important political consideration.

LONG-TERM OUTLOOK

By 1985, energy consumption in Michigan will average 354 million BTUs, 8 percent above the recent high level of 327 million BTUs reached in 1978. The national average is expected to be 380 million BTUs per capita, a 6 percent increase over the 1978 figure. Between 1985 and 2000, the Michigan average is forecast to grow by 20 percent (to 421 million BTUs per capita), the national by 17 percent (to 445 million BTUs per capita). These figures were developed more than a year ago by the U. S. Department of Commerce in forecasts for all states.

That report projects a declining consumption of petroleum (32 percent in Michigan and 27 percent nationally) and natural gas (16 percent and 9 percent, respectively). Coal will become more important (consumption increasing by 126 percent in this state and 177 percent in the nation). It is envisaged that coal (.03 percent of the national total) will be mined in the Wolverine State.

A less pessimistic petroleum forecast has been developed by the Michigan Energy Administration on the basis of an exhaustive evaluation of published geological and engineering studies.[2] It projects a "probable" national availability of petroleum equivalent to the amount consumed during 1976. But even this relatively sanguine fore-

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The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.6	41.0	39.2 (Nov.)
Average weekly hours, U.S.	40.9	40.3	40.2 (Nov.)
Average hourly earnings, Michigan ($)	8.52	8.91	8.87 (Nov.)
Average hourly earnings, U.S. ($)	6.38	6.82	6.85 (Nov.)
U.S. motor vehicle production (units)	1,127,609	607,205	733,456 (Jan.)
Michigan electricity usage (mil. kwh.)	6,080	5,823	5,701 (Oct.)
Industrial (mil. kwh.)	2,963	2,695	2,679 (Oct.)
Residential (mil. kwh.)	1,772	1,759	1,652 (Oct.)
Raw steel production:			
Michigan (000 net tons)	926	753	751 (Dec.)
United States (000 net tons)	11,812	9,997	9,996 (Dec.)
Consumer price index (1967 = 100)			
Detroit area	202.2	231.3	233.3 (Dec.)
United States	202.9	227.5	229.9 (Dec.)
U.S. wholesale price index (1967 = 100)	217.5	246.9	249.4 (Dec.)
Michigan farm prices received index (1967 = 100)	214	231	236 (Dec.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 12 Months: 1978 and 1979

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	59,942	75,052	+ 22	90,402	82,717	− 9	150,344	157,769	+ 5
Battle Creek	40,622	21,988	− 46	29,838	37,586	+ 26	70,460	59,574	− 15
Bay City	12,445	10,530	− 15	18,447	14,060	− 24	30,892	24,590	− 20
Detroit	902,153	1,013,597	+ 12	1,132,079	1,095,321	− 3	2,034,232	2,108,918	+ 4
Flint	76,447	82,857	+ 8	104,031	98,385	− 5	180,478	181,242	—
Grand Rapids	173,722	263,125	+ 51	206,104	170,191	− 17	372,826	433,316	+ 14
Jackson	14,138	19,386	+ 37	24,498	35,177	+ 44	38,636	54,563	+ 41
Kalamazoo-Portage	35,058	59,530	+ 70	80,430	70,378	− 12	115,488	129,908	+ 12
Lansing–East Lansing	92,096	98,691	+ 7	121,114	161,029	+ 33	213,210	259,720	+ 22
Muskegon–Norton Shores–Muskegon Heights	23,686	21,411	− 10	38,371	26,255	− 32	62,057	47,666	− 23
Saginaw	68,811	38,873	− 44	49,649	61,674	+ 24	118,460	100,547	− 15
Michigan	1,752,267	1,945,482	+ 11	2,469,130	2,399,418	− 3	4,221,397	4,344,900	+ 3
United States	45,045,834	49,659,492	+ 10	74,949,473	74,685,642	—	119,995,307	124,345,134	+ 4

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,821,304,000 and $892,825,000 respectively, or a decrease of 51 percent. U. S. figures for nonbuilding construction contracts were $39,934,701,000 and $42,032,763,000 or an increase of 5 percent.

Quarterly Personal Income in Michigan

	Millions of dollars, annual rates, seasonally adjusted							Percentage change 79(2) to 79(3)	
	1978				1979				
	1	2	3	4	1	2	3	Michigan	United States
TOTAL LABOR AND PROPRIETORS INCOME BY PLACE OF WORK									
By type									
Wage and salary disbursements	50,530	51,695	53,035	54,949	56,118	54,885	54,673	− .3	+ 2.1
Other labor income	6,506	6,590	6,786	7,058	7,243	7,050	7,025	− .4	+ 3.8
Proprietors income	3,377	3,488	3,554	3,685	3,634	3,679	3,866	+ 5.1	+ .8
Farm	542	574	556	589	546	573	662	+15.5	− 8.5
Nonfarm	2,835	2,914	2,998	3,096	3,088	3,106	3,204	+ 3.2	+ 3.8
By industry									
Farm	688	722	708	748	713	746	837	+12.2	− 6.2
Nonfarm	59,725	61,052	62,666	64,945	66,281	64,868	64,727	− .2	+ 2.4
Private	51,964	53,059	54,469	56,594	57,850	56,257	55,989	− .5	+ 2.6
Ag. Serv., For., Fish., and other	123	134	137	141	147	155	161	+ 3.9	+ 4.1
Mining	281	[illegible]	323	338	337	349	359	+ 2.9	+ 3.1
Construction	2,928	2,951	3,112	3,198	3,203	3,471	3,543	+ 2.1	+ 3.0
Manufacturing	26,414	26,887	27,436	28,912	29,550	27,622	26,541	− 3.9	+ 1.2
Nondurable goods	3,907	3,999	4,056	4,323	4,254	4,182	4,193	+ .3	+ 1.4
Durable goods	22,507	22,888	23,380	24,589	25,296	23,441	22,347	− 4.5	+ 1.1
Transportation and public utilities	3,333	3,426	3,462	3,526	3,585	3,295	3,474	+ 5.4	+ 5.4
Wholesale trade	3,001	3,092	3,207	3,293	3,372	3,429	3,473	+ 1.3	+ 2.7
Retail trade	5,317	5,447	5,570	5,728	5,899	5,994	6,113	+ 2.0	+ 1.4
Finance, insurance, and real estate	2,299	2,342	2,430	2,507	2,542	2,592	2,693	+ 3.9	+ 4.2
Services	8,268	8,468	8,792	8,952	9,214	9,349	9,632	+ 3.0	+ 3.5
Government and government enterprises	7,762	7,993	8,197	8,351	8,432	8,612	8,739	+ 1.5	+ 1.1
Federal, civilian	938	960	986	1,028	1,060	1,070	1,082	+ 1.1	+ 1.2
Federal, military	190	191	195	201	201	199	199	0	+ .3
State and local	6,633	6,841	7,016	7,122	7,171	7,342	7,457	+ 1.6	+ 1.2
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE									
Total labor and proprietors income by place of work	60,413	61,773	63,374	65,693	66,994	65,614	65,564	− .1	+ 2.2
Less: Personal contributions for social insurance by place of work	2,983	3,006	3,062	3,153	3,424	3,300	3,254	− 1.4	+ 1.7
Net labor and proprietors income by place of work	57,430	58,767	60,312	62,539	63,571	62,314	62,310	0	+ 2.2
Plus: Residence adjustment	342	361	371	381	398	410	421	+ 2.7	+ 3.4
Net labor and proprietors income by place of residence	57,772	59,127	60,683	62,920	63,969	62,723	62,732	0	+ 2.2
Plus: Dividends, interest, and rent	8,312	8,595	8,974	9,321	9,627	9,900	10,137	+ 2.4	+ 2.4
Plus: Transfer payments	8,722	8,895	9,171	9,280	9,522	9,830	10,454	+ 6.3	+ 7.0
State U.I. benefits	543	580	443	365	404	460	434	− 5.7	+ 9.5
Transfers excluding state U.I.	8,180	8,315	8,728	8,916	9,118	9,370	10,020	+ 6.9	+ 6.9
Personal income by place of residence	74,806	76,618	78,827	81,521	83,117	82,543	83,322	+ 1.1	+ 2.8

SOURCE: Bureau of Economic Analysis, special release.

Energy Update

(Continued from page 3)

cast implies less petroleum per capita and per highway vehicle, since people, cars, and trucks will become more numerous. The obvious means of increasing the availability of petroleum for highway use is to curtail its other applications.

Most Americans know petroleum distillate as the oil burned in residential furnaces. In its chemical properties, it is similar to the fuel burned in diesel and jet engines. During 1977, approximately 900 million barrels of distillate were consumed in this country, most of it for space heating in homes and businesses. Substituting natural gas and bottle gas (liquefied petroleum gas, or LPG) would nearly have doubled the amount of energy available for diesel and jet engines. The supply of LPG is almost certain to grow. The supply of natural gas depends on discoveries in this country as well as on negotiations to buy it elsewhere. Both seem promising.

Residual fuel oil is a tar-like residue from the distillation of petroleum in refineries. During 1977, approximately 1.1 billion barrels were consumed in this country, most of it in factories and commercial establishments. This is another potential source of gasoline, diesel oil, and jet engine fuel.

TABLE 4
Per Capita Energy Consumption in Michigan and the United States, by Fuel Type and Consumer Type: 1960, 1965, and 1977

(millions of BTUs)

Gross energy consumption	*Consumption per capita*					
	Michigan			*United States*		
	1960	*1965*	*1977*	*1960*	*1965*	*1977*
By fuel type						
Gasoline	43	50	67	42	46	65
Residual fuel oil	9	6	15	19	19	33
Distillate	22	19	23	20	20	24
Diesel	1	2	6	2	4	9
Jet fuel	2	3	4	4	6	9
LPG	1	2	4	3	4	5
Kerosene	3	4	1	3	3	2
Coal	86	106	79	55	61	66
Natural gas	48	68	84	58	75	93
Nuclear	0	–	12	0	–	12
Hydro	2	2	1	8	10	11
Other	10	9	12	19	21	28
By consumer type						
Residential	52	59	56	40	43	48
Commercial	23	26	34	24	28	37
Industrial						
Coal	29	31	12	14	14	8
Coke	16	17	12	12	13	10
Natural gas	15	23	30	25	32	40
Electric	5	8	12	7	8	12
Other	22					
Total	82	95	83	85	95	107
Transportation	46	54	77	54	63	90
Other	24	38	56	32	40	73
TOTAL	227	272	306	235	269	355

SOURCE: Developed from U. S. Department of Energy, Energy Information Administration, *Federal Energy Data System (FEDS) Statistical Summary Update* (Washington, D.C.: U. S. Government Printing Office, 1979), Tables 1, 3, 4, 5, and 6; and Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University, *Michigan Statistical Abstract*, 15th ed., forthcoming (East Lansing: 1980), Table 2.

TABLE 5
Energy Forecast, Michigan and the United States: 1985 and 2000

Item	*Michigan*		*United States*	
	1985	*2000*	*1985*	*2000*
Energy consumption per capita (in millions of BTUs)	354	421	380	445
Energy consumption (in trillions of BTUs)				
Oil	1,274	815	38,100	26,100
Natural gas	814	744	18,800	18,400
Coal	976	1,827	18,700	39,000
Nuclear, hydro, geothermal, solar, and other	397	947	12,600	33,200
Total	3,461	4,333	88,200	116,700
Energy production				
Crude oil[a]	110	65	10,071	7,240
Natural gas[b]	90	60	17,460	13,000
Coal[c]	0	524	890,000	1,860,000
Electric power[d]	1,105	2,091	32,596	60,998
Electric power source[e]				
Oil	2,570	0	78,000	1,800
Natural gas	659	617	53,500	13,300
Coal	10,991	21,253	266,000	566,000
Nuclear	4,782	10,320	141,000	290,000
Hydro/geothermal	2,393	3,467	79,200	157,000
Other	1,401	2,499	51,900	84,800
TOTAL	22,706	38,156	669,600	1,112,900

SOURCE: U. S. Department of Commerce, Office of Ocean, Resource, and Scientific Policy Coordination, *Preliminary Forecast of Likely U. S. Energy Consumption/Production Balance for 1985 and 2000 by States* (Washington, D.C.: 1978), pp. 48 and 92.

a. Thousand barrels per day.
b. Billion cubic feet per year.
c. Thousand short tons.
d. Trillions of BTUs.
e. Megawatts.

Another means of redirecting the use of petroleum lies in redesigning refineries so as to produce more highway fuels and less of everything else from each barrel of petroleum. This will occur as a matter of course, as worn-out refineries are replaced.

All things considered, it appears that we will produce enough fuel to keep America on wheels, albeit in less safe and more cramped quarters.

The projections in Table 5 were completed in 1978, well before the Three Mile Island incident. It now seems unlikely that nuclear energy will supply 10,320 megawatts by 2000, or even 4,782 megawatts by 1985, as indicated in the 1978 report. We face the prospect of a tight squeeze with respect to the supply-demand balance for electricity in this state.

CITATIONS

1. Bureau of the Census, *U.S. Census of Manufactures: 1963, Fuels and Electric Energy Consumed in Manufacturing Industries: 1962* (Washington, D.C.: U.S. Government Printing Office, 1964), Table 6; and Bureau of the Census, *An-*

nual Survey of Manufactures: 1976, Fuels and Electric Energy Consumed (Washington, D.C.: U.S. Government Printing Office, 1978), Table 3.

2. Michigan Department of Commerce, Energy Administration, and the Michigan Energy and Resource Research Association, *Michigan Energy Prospects to the Year 2000* (Lansing: 1979), Table III-A.

BRIEFS

Michigan was third from the bottom in **personal income gain** between the second and third quarters of 1979, according to data just released by the Bureau of Economic Analysis. Iowa and South Dakota, both heavily affected by volatile farm incomes, had smaller percentage income gains than Michigan. Alabama and Mississippi placed just above Michigan in the rankings. Among our own neighbors, Illinois and Wisconsin posted gains slightly above the national average, and Ohio and Indiana slightly below.

This state's economy is sluggish, obviously, because of the slack demand for large cars and small trucks, so popular during 1978. Between the relatively favorable first quarter of 1979 and the third, income earned in durable goods factories located in the Wolverine State declined by 12 percent. The downturn has generated a torpor in almost all other parts of the state's economy. A notable exception is construction. Building activity in Michigan continued to outpace the nation due primarily to the installation of new factories, stores, and office buildings. This state's farmers also had a particularly favorable year, as measured by farm income, whereas farmers fared poorly in the nation as a whole.

The Bureau of Economic Analysis is part of the U. S. Department of Commerce. Among other things, it maintains statistics on the nation's gross national product and on personal income for states. State product accounts generally are not available, hence personal income is employed as a proxy measure of states' overall economic growth. For Michigan, quarterly personal income figures for 1978 and 1979 appear on page 5 of this issue of the *Record*.

The Michigan Agricultural Reporting Service recently released data on **farm production** in the state and the nation in 1979.

Corn and soybean crops in Michigan and the United States hit record levels in 1979. The state's **corn** output of nearly 238 million bushels is 22 percent above last year's crop and 20 percent above the 1977 record. The average yield of 95 bushels per acre surpassed the old record by 10 bushels. Michigan has become the eighth largest producer of corn for grain in the country. U.S. corn production was up 10 percent from last year's record, as the average U.S. yield increased by nearly 9 bushels per acre. A large jump in acreage brought Michigan's **soybean** crop to record levels. Total production in 1979 was 49 percent higher than the 1978 crop and 32 percent better than the 1977 record. U. S. soybean production was 21 percent higher than the record set last year.

Sugarbeet production fell by 11 percent this year, as both harvested acreage and yields were down. Production declines in 14 of the 17 primary sugarbeet states caused U. S. production to drop by 14 percent.

State **popcorn** production jumped 153 percent in 1979 on the strength of an acreage increase of 157 percent. **Alfalfa** production rose 3 percent, and other **hay** producwas up 11 percent. **Red clover seed** production dropped 3 percent. Nationally, popcorn, alfalfa, and other hay increased, while red clover seed decreased.

Michigan **turkey** growers raised 1,200,000 turkeys in 1979, one percent less than in the previous two years. Almost all turkeys produced here are heavy breeds, averaging 22-24 pounds liveweight at slaughter time. A December 1 survey of turkey breeder farms records 44,000 hens, up 10 percent from 1978. This increase is contrary to the trend in recent years of declining numbers of breeder hens in the state. Average value per hen on inventory dropped $3.00 in 1979, to $13.00 The increase in numbers was not able to offset the drop in average value, as total value for turkey breeder hens declined 11 percent, to $572,000.

After an incredible production year in 1978, when seven of the eight major **fruit crops** in Michigan posted gains, fruit output in 1979 returned to more normal levels. Production of Michigan's eight major fruit crops in 1979 totaled 536,500 tons, an overall drop of 24 percent. Leading the declines were peaches and prune-plums, both down 42 percent from 1978. The record-breaking low winter temperatures and spring freezes caused a significant amount of dead wood and frozen buds. Sweet cherry production slid 30 percent below last year's all-time record and was also affected by the spring freezes. Apple production fell 26 percent below 1978 output, which had been the largest Michigan harvest in this century. A dry September hurt apple sizing, with all varieties posting declines. The harvest of tart cherries dipped 22 percent, marking the fourth consecutive year of poor production for this volatile crop. Severe spring freezes were mainly responsible. Michigan, however, still ranks as the foremost tart cherry producer in the nation. Grape production slipped 13 percent from last season's fine output. Partially offsetting these declines were an 8 percent increase in pear production and a tremendous 60 percent rise in blueberry production, still recovering from the poor 1977 crop. Michigan remains the largest blueberry producer in the country.

For the United States, apples, sweet cherries, grapes, and pears all posted record production. Also showing increases were blueberries, peaches, and prune-plums. The only fruit crop that declined nationally was tart cherries, to which Michigan's faltering production gave impetus.

As of January 1, 1980, **potato stocks** were down 16 percent from a year ago. Reports from growers, shippers, and processors place stocks at 4.2 million hundred-weight (cwt.), compared with 5.0 million cwt. in January 1979. Disappearance of potatoes from the start of harvest to January 1, 1980, totaled 3.8 million cwt., an increase of 9 percent from the same period last year. Much of the additional disappearance is due to more shrinkage and loss than occurred in 1979. So far this season, 48 percent of the crop has been removed from storage, compared to 41 percent a year ago.

On the U.S. level, an estimated 183 million cwt. of potatoes were in storage in the major producing areas as of January 1. This is a 7 percent decline from last year's record, but 3 percent more than 1978. The seven eastern states had 30.6 million cwt. in storage, 16 percent more than on January 1, 1979, and 7 percent above 1978. The eight central states had stocks of 34.4 million cwt. on hand, 16 percent below last year, and 8 percent below the 1978 level. Potato stocks in the eight western states, at 118 million cwt., were 9 percent lower than last year's record January 1 holdings, but 5 percent greater than in 1978. Disappearance of the fall crop between January 1, 1979 and 1980 was 114 million cwt., excluding Nevada, down 7 percent from the 122 million cwt. disappearance for the comparable period a year ago. This total disappearance to date includes 18.1 million cwt. of potatoes that were dumped during grading, fed to livestock on potato farms, discarded without grading, and lost due to shrinkage (moisture loss). The quantity of potatoes processed as of January 1, 1980, in the seven major states amounted to 41.4 million cwt., 10 percent below a year earlier.

The **Index of Prices Received** by Michigan farmers increased 3 points (1 percent), to 236, during the month ending December 15, 1979. Both the All Crops Index and the Livestock and Products Index contributed equally to the price gain, as each rose one percent. Leading the commodity group price advances were poultry and eggs, up 7 percent. Also posting rises were feed grains and hay, cash field crops, meat animals, and commercial vegetables. The prices of all dairy products held steady. The only commodity group exhibiting a decline was fruit, down 2 percent. The December Prices Received Index for all farm products was up 10 percent from a year ago.

Eggs, oats, hogs, dry beans, potatoes, hay, milk, corn, and wheat all increased over the month. The price for beef cattle, calves, and lambs remained stable. The only commodity that lost ground on the price front was soybeans, which dipped 2 percent.

For the United States, the December Index of Prices Received increased one point (.05 percent), to 239 percent of its January–December 1967 average. Contributing most to the increase since November were higher prices for hogs, corn, eggs, and cattle. Lower prices for oranges, tomatoes, wheat, soybeans, and cotton were partially offsetting. The index was 17 points (8 percent) above a year ago.

The *Annual Report, Financial Institutions Bureau, Calendar Year 1978* contains data on Michigan **banks.**

State-chartered banks had assets of $20.8 billion as of December 31, 1978, an increase of 9.5 percent from 1977. The 1978 growth rate was lower than the 14.4 percent rate experienced the previous year. Loans (not including federal funds sold and securities purchased under agreement to resell) increased during 1978 by $1.4 billion, or 14.0 percent. This compares to an increase in such loans of 14.6 percent for 1977. Loans as a percentage of assets increased from a year-end 1977 figure of 54.5 percent to 56.7 percent as of December 31, 1978. Obligations of state and political subdivisions increased $144.0 million, or 5.5 percent, during 1978, compared to an 8.1 percent increase in 1977. U. S. Treasury securities increased $22.0 million (1.1 percent) as compared to the 1977 increase of 18.4 percent. Cash and due from depository institutions decreased by one percent during 1978; in 1977 there was an increase of 30.3 percent.

Total deposits of state-chartered banks increased 6.8 percent, to $17.9 billion, during 1978, compared to an increase of 14.2 percent for 1977. Demand deposits increased by $261.1 million (6.2 percent). Time and savings deposits increased by $873.6 million (6.9 percent).

Federal funds purchased and securities sold under agreement to repurchase increased by 54.2 percent, compared to the 1977 increase of 39.8 percent.

Total equity capital accounts increased by 10.7 percent; in 1977 the increase was 9.5 percent. Capital growth was 1.2 percent more than asset growth for 1978.

Income before income taxes and securities gains or losses increased 26.8 percent, to $231.7 million, during 1978; in 1977 a 24.4 percent increase was posted. Total operating income rose by 20.9 percent, while total operating expense rose by 20.0 percent. Net income after taxes, securities gains or losses, and extraordinary charges or credits increased 16.0 percent during 1978, compared to a 17.3 percent increase for 1977. A net securities loss of $5.1 million was experienced during 1978, whereas there was a gain of $.4 million in 1977. Interest and fees on loans increased 23.0 percent during 1978, compared to a 1977 increase of 14.5 percent.

Interest on time and savings deposits increased 18.1 percent for 1978, 11.2 percent in 1977.

Provision for possible loan losses increased $8.5 million (or 32.4 percent), compared to a decrease of $2.4 million (or 8.3 percent) during 1977.

During 1978, the number of state bank offices increased from 1,114 to 1,170. The establishment of one de novo bank, a conversion from federal to state charter, and one consolidation resulted in a net increase of state-chartered banks, from 239 on December 31, 1977, to 240 as of December 31, 1978. The number of branch offices increased from 875 to 930 during the same period.

As of year-end 1978, 42 bank holding companies controlled 82 state-chartered banks and 71 national banks. One-bank holding companies controlled 15 state-chartered banks and 5 national banks; multibank holding companies controlled 67 state-chartered banks and 66 national banks. Total deposits of banks controlled by bank holding companies at year-end 1978 were $30.3 billion, which represents 74.6 percent of the $40.6 billion total deposits held by all banks in Michigan.

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TRAVEL UPDATE

by DAVID I. VERWAY, *Research Professor, Graduate School of Business Administration, Michigan State University.*

During 1977, 53 million American households traveled; that is, at least one member in each one of them visited a place 100 or more miles from home and returned. California was affected more than any other state. Nearly 22 million people (from more than 10 million households) traveled through or to, or originated their trips in, the Golden State. Second through sixth places were held by New York, Florida, Pennsylvania, Illinois, and Ohio. Michigan ranked seventeenth. This comparatively low ranking results from the fact that relatively few people pass through Michigan on their way elsewhere. Illinois, in contrast, is the crossroads of the nation. Maryland, Pennsylvania, New York, Ohio, New Jersey, and Indiana also have heavy through traffic. Excluding those who are just passing through, Michigan ranked seventh in the number of visitors. California led, followed by Florida, Texas, New York, Pennsylvania, and Illinois.

Person-trips and Person-nights

The National Travel Survey is conducted as part of the quinquennial Census of Transportation during years ending in 2 and 7. Between April 1977 and January 1978, 20,000 U.S. households provided information about their travel during the year. Besides data on education, income, age, and various other characteristics of the households and the people in them, the Bureau of the Census collected information about trip destinations, mode of travel, distance, and so forth. The results were used to develop estimates of travel patterns for all U.S. households.

A traveler is one who journeys 100 or more miles from home and returns. A person-trip is each such event. If the same person makes two of these trips, that equals two person-trips in the data. Two persons traveling together on a trip also equals two person-trips. Excluded from this definition are trips by crew members of trains, buses, trucks, planes, and ships; trips by students between home and school; trips by military personnel traveling on duty; and commuting to and from work. The 100-mile criterion is based on the fact that few people can recall every journey of less than 100 miles, but most remember those that are longer. The definition makes for consistency of response among households, although it produces some strange results. For example, no intrastate trips are possible in Rhode Island because of its size.

In person-trips, by state of destination (that is, excluding those just passing through), Michigan ranked sixth behind California, Texas, Florida, New York, and Pennsylvania, in that order. In person-nights, by state of destination, the Wolverine State was fifth, after Florida, California, Texas, and New York. A person-night equals one person away from home on a trip for one night. For example, three persons on a trip that entails being away for two nights equals six person-nights.

Since destination rather than origin was the focus of the survey, figures on geographic origin of travel are sketchy. Those available reveal that Michigan supplies more travelers to the nation than it hosts. The same is true of most midwestern states, Wisconsin being a notable exception. The South is the leading region in attracting more visitors than it sends, and the West and New England ran a similar "surplus" in terms of person-nights. The region encompassing New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and Washington, D.C., ran a deficit, even though the nation's capital, Delaware, and West Virginia had surpluses.

In most states, the largest category of travel was that involving visits to friends and relatives. Exceptions were Alaska, Delaware, New Hampshire, and Vermont (outdoor recreation was the leading travel motivation), Washington, D.C. (business travel led), Hawaii (sightseeing was the major category), and Nevada (entertainment was the pri-

(Continued on page 6)

TABLE 1
Selected Trip Characteristics of Michigan and U.S. Travel: 1972 and 1977

		Travel in Michigan								*Total U.S. travel*			
		To and through the state				*Michigan destination*							
		Person-trips		*Person-nights*		*Person-trips*		*Person-nights*		*Person-trips*		*Person-nights*	
Item		*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*
Major means of transportation													
Auto/truck (without camping equipment)	1972	18,388	86	51,080	77	17,592	87	49,267	79	356,256	78	1,089,995	61
	1977	24,576	82	52,045	71	16,007	81	50,005	71	411,023	76	1,297,086	60
Auto/truck (with camping equipment)	1972	1,571	7	6,979	11	1,318	7	6,246	10	34,418	8	176,995	10
	1977	2,353	8	5,813	8	1,225	6	5,319	8	30,983	6	179,633	8
Bus	1972	269	1	1,420	2	248	1	1,365	2	8,413	2	46,993	3
	1977	345	1	988	1	325	2	955	1	14,959	3	54,428	3
Train	1972	24	0	85	0	18	0	79	0	1,880	0	10,803	1
	1977	139	0	774	1	106	1	722	1	4,094	1	21,198	1
Air	1972	1,014	5	5,739	9	927	5	5,065	8	53,891	12	417,830	23
	1977	1,717	6	9,013	12	1,465	7	8,285	12	65,662	12	502,187	23
Other	1972	104	0	677	1	92	0	628	1	3,626	1	39,284	2
	1977	1,021	3	5,036	7	671	3	4,814	7	12,568	2	109,830	5
Main purpose of trip													
Visit friends and relatives	1972	7,363	34	23,575	36	7,079	35	22,151	35	175,868	38	726,011	41
	1977	10,777	36	30,694	42	6,767	34	29,334	42	198,479	37	900,382	42
Business and conventions	1972	3,107	15	6,357	10	2,893	14	6,027	10	92,571	20	287,760	16
	1977	3,742	12	6,723	9	2,858	14	6,139	9	105,404	20	308,382	14
Outdoor recreation	1972	4,551	21	17,776	27	4,339	21	17,233	28	57,090	12	219,907	12
	1977	6,048	20	15,891	22	4,926	25	15,376	22	70,610	13	284,099	13
Sightseeing and entertainment	1972	1,787	8	3,695	6	1,385	7	2,830	5	60,774	13	266,072	15
	1977	3,584	12	6,577	9	1,564	8	5,733	8	70,027	13	300,632	14
Other	1972	4,563	21	14,578	22	4,499	22	14,410	23	72,179	16	282,150	16
	1977	5,902	20	13,785	19	3,684	19	13,519	19	94,769	18	370,868	17
Weekend or other trip													
Weekend trip	1972	10,780	50	23,645	36	10,412	52	22,749	36	218,746	48	489,544	27
	1977	13,245	44	19,025	26	9,113	46	18,685	27	218,465	41	438,252	20
Not a weekend trip	1972	9,125	43	36,343	55	8,462	42	34,155	55	214,038	47	1,145,765	64
	1977	16,279	54	54,038	73	10,289	52	50,808	72	314,691	58	1,714,252	79
Not reported	1972	1,467	7	5,992	9	1,321	7	5,747	9	25,699	6	146,592	8
	1977	528	2	607	1	397	2	607	8	6,134	1	11,859	1
Vacation or other trip													
Vacation	1972	8,566	40	40,927	62	7,699	38	38,294	61	176,891	39	1,098,926	62
	1977	12,655	42	46,341	63	7,652	39	43,532	62	199,631	37	1,348,996	62
Not a vacation	1972	11,873	56	22,189	34	11,585	57	21,707	35	268,609	59	637,390	36
	1977	16,881	56	26,540	36	11,742	59	25,779	37	335,692	62	800,077	37
Not reported	1972	932	4	2,863	4	911	5	2,649	4	12,984	3	45,584	3
	1977	515	2	788	1	406	2	788	1	3,967	1	15,289	1
Round-trip distance													
200 to 399 miles	1972	10,159	48	18,625	28	10,150	50	18,604	30	189,018	41	301,209	17
	1977	13,911	46	28,040	38	10,904	55	27,881	40	272,299	50	509,820	23
400 to 599 miles	1972	5,126	24	16,239	25	5,069	25	16,150	26	91,663	20	227,858	13
	1977	6,580	22	14,880	20	4,797	24	14,490	21	94,004	17	268,454	12
600 to 799 miles	1972	2,191	10	8,592	13	2,143	11	8,508	14	45,454	10	148,573	8
	1977	1,913	6	5,823	8	1,280	6	5,668	8	40,634	8	168,034	8
800 to 999 miles	1972	912	4	4,586	7	891	4	4,539	7	25,345	6	103,055	6
	1977	1,090	4	4,096	6	673	3	3,940	6	24,120	4	119,101	6

TABLE 1 (Cont.)

Selected Trip Characteristics of Michigan and U.S. Travel: 1972 and 1977 (Cont.)

		Travel in Michigan								*Total U.S. travel*			
		To and through the state				*Michigan destination*							
		Person-trips		*Person-nights*		*Person-trips*		*Person-nights*		*Person-trips*		*Person-nights*	
Item		*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*	*Number (000)*	*Percentage of total*
1,000 to 1,999 miles	1972	1,681	8	9,950	15	1,522	8	9,564	15	47,864	10	291,878	16
	1977	2,890	10	8,541	12	1,300	7	7,773	11	47,634	9	353,138	16
2,000 miles and over	1972	938	4	6,828	10	419	2	5,285	8	40,703	9	497,668	28
	1977	2,412	8	11,377	15	845	2	10,347	15	42,728	8	567,373	26
Outside United States	1972	363	2	1,159	2	X	X	X	X	18,436	4	211,659	12
	1977	1,257	4	913	1	X	X	X	X	17,862	3	188,442	9
Duration of trip													
No nights out of town	1972	3,945	18	X	X	3,945	20	X	X	82,699	18	X	X
	1977	4,031	13	X	X	3,064	15	X	X	100,844	19	X	X
1 to 2 nights	1972	9,390	44	15,543	24	9,096	45	15,064	24	194,916	43	308,030	17
	1977	12,398	41	14,215	19	8,750	44	14,120	20	220,311	41	351,548	16
3 to 5 nights	1972	4,493	21	15,265	23	4,236	21	14,747	24	100,837	22	372,359	21
	1977	6,880	23	16,354	22	4,485	23	15,666	22	119,473	22	437,034	20
6 to 15 nights	1972	2,938	14	22,228	34	2,518	12	21,315	34	64,418	14	585,271	33
	1977	5,274	18	25,690	35	2,950	15	24,199	35	78,465	15	705,775	33
16 nights or more	1972	605	3	12,942	20	400	2	11,523	18	15,613	3	516,240	29
	1977	1,469	5	17,410	24	551	3	16,115	23	20,232	4	670,005	31
Number on trip													
1 person	1972	4,295	20	15,368	23	4,098	20	14,413	23	120,020	26	490,629	28
	1977	8,839	29	22,677	31	6,496	33	21,674	31	186,400	35	728,631	34
2 persons	1972	5,862	27	17,080	26	5,581	28	16,350	26	130,574	28	551,417	31
	1977	9,382	31	22,801	31	5,883	30	21,840	31	164,400	30	727,031	34
3 persons or more	1972	11,216	52	33,530	51	10,517	52	31,886	51	207,890	45	739,853	42
	1977	11,832	39	28,191	38	7,420	37	26,586	38	118,489	35	708,701	32
Area of destination													
In an SMSA	1972	7,420	35	18,043	27	7,161	35	17,450	28	239,820	52	879,982	49
Not in an SMSA	1972	13,589	64	46,777	71	13,035	65	45,201	72	200,258	44	691,065	39
Outside United States	1972	363	2	1,159	2	X	X	X	X	18,405	4	210,852	12
Travel region of origin													
New England	1972	123	1	313	0	87	0	267	0	25,545	6	97,742	5
	1977	157	1	774	1	108	1	725	1	23,472	4	103,218	5
New York–New Jersey	1972	386	2	1,708	3	325	2	1,584	3	37,647	8	203,965	11
	1977	403	1	1,344	2	249	1	1,196	2	44,363	8	219,723	10
Mid-Atlantic	1972	484	2	2,070	3	417	2	1,930	3	45,674	10	180,683	10
	1977	361	1	2,649	4	338	2	2,629	4	53,263	10	209,422	10
South	1972	486	2	3,754	6	411	2	3,424	5	74,568	16	277,215	16
	1977	1,016	3	8,825	12	919	5	8,529	12	96,608	18	375,453	17
North Central	1972	19,442	91	53,191	81	18,601	92	51,272	82	113,234	25	446,028	25
	1977	27,290	91	53,351	72	17,599	89	51,111	73	127,679	24	506,299	23
Trip originated in Michigan	1977	20,165	67	34,613	47	11,645	59	33,085	47	n.a.	n.a.	n.a.	n.a.
Northwest	1972	91	0	643	1	67	0	529	1	21,508	5	75,971	4
	1977	227	1	1,678	2	173	1	1,515	2	28,854	5	97,538	5
Southwest	1972	206	1	2,267	3	182	1	2,179	3	67,703	15	220,881	12
	1977	285	1	1,551	2	241	1	1,457	2	79,905	15	295,475	14
Pacific	1972	153	1	2,035	3	105	1	1,466	2	72,604	16	279,415	16
	1977	314	1	3,317	5	171	1	2,938	4	85,146	16	357,235	17
Quarters													
First	1972	3,668	17	8,167	12	3,576	18	7,594	12	92,270	20	301,634	17
	1977	4,994	17	8,203	11	3,112	16	7,991	11	125,334	23	432,840	20
Second	1972	5,065	24	11,540	17	4,800	24	10,939	17	116,024	25	407,855	23
	1977	8,049	27	17,518	24	5,178	26	16,804	24	139,613	26	504,015	23
Third	1972	8,461	40	35,959	55	7,790	39	34,212	55	152,059	33	745,342	42
	1977	11,352	38	33,901	46	7,546	38	31,900	46	166,685	31	833,788	39
Fourth	1972	4,178	20	10,314	16	4,029	20	9,905	16	98,131	21	327,069	18
	1977	5,656	19	14,048	19	3,964	20	13,404	19	107,658	20	393,719	18
TOTAL	1972	21,371	100	65,979	100	20,195	100	62,650	100	458,483	100	1,781,900	100
	1977	30,052	100	73,669	100	19,800	100	70,100	100	539,290	100	2,164,362	100

SOURCE: U.S. Bureau of the Census, *1972 Census of Transportation, National Travel Survey, Travel during 1972* (Washington, D.C.: Superintendent of Documents, 1973), Tables 2 and 46; and U.S. Bureau of the Census, *1977 Census of Transportation, National Travel Survey, Travel during 1977* (Washington, D.C.: Superintendent of Documents, 1979), Tables 2A and 28.

The MICHIGAN STATE ECONOMIC RECORD

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Graduate School of Business Administration

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.6	41.0	39.2 (Nov.)
Average weekly hours, U.S.	40.9	40.3	40.2 (Nov.)
Average hourly earnings, Michigan ($)	8.52	8.91	8.87 (Nov.)
Average hourly earnings, U.S. ($)	6.38	6.82	6.85 (Nov.)
U.S. motor vehicle production (units)	1,127,609	607,205	733,456 (Jan.)
Michigan electricity usage (mil. kwh.)	6,080	5,823	5,701 (Oct.)
Industrial (mil. kwh.)	2,963	2,695	2,679 (Oct.)
Residential (mil. kwh.)	1,772	1,759	1,652 (Oct.)
Raw steel production:			
Michigan (000 net tons)	926	753	751 (Dec.)
United States (000 net tons)	11,812	9,997	9,996 (Dec.)
Consumer price index (1967 = 100)			
Detroit area	202.2	231.3	233.3 (Dec.)
United States	202.9	227.5	229.9 (Dec.)
U.S. wholesale price index (1967 = 100)	217.5	246.9	249.4 (Dec.)
Michigan farm prices received index (1967 = 100)	214	231	236 (Dec.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics, Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, 1978 and 1979 Total

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1978	1979	Percentage change	1978	1979	Percentage change	1978	1979	Percentage change
Ann Arbor	59,942	75,052	+ 22	90,402	82,717	− 9	150,344	157,769	+ 5
Battle Creek	40,622	21,988	− 46	29,838	37,586	+ 26	70,460	59,574	− 15
Bay City	12,445	10,530	− 15	18,447	14,060	− 24	30,892	24,590	− 20
Detroit	902,153	1,013,597	+ 12	1,132,079	1,095,321	− 3	2,034,232	2,108,918	+ 4
Flint	76,447	82,857	+ 8	104,031	98,385	− 5	180,478	181,242	—
Grand Rapids	173,722	263,125	+ 51	206,104	170,191	− 17	372,826	433,316	+ 14
Jackson	14,138	19,386	+ 37	24,498	35,177	+ 44	38,636	54,563	+ 41
Kalamazoo-Portage	35,058	59,530	+ 70	80,430	70,378	− 12	115,488	129,908	+ 12
Lansing–East Lansing	92,096	98,691	+ 7	121,114	161,029	+ 33	213,210	259,720	+ 22
Muskegon–Norton Shores–Muskegon Heights	23,686	21,411	− 10	38,371	26,255	− 32	62,057	47,666	− 23
Saginaw	68,811	38,873	− 44	49,649	61,674	+ 24	118,460	100,547	− 15
Michigan	1,752,267	1,945,482	+ 11	2,469,130	2,399,418	− 3	4,221,397	4,344,900	+ 3
United States	45,045,834	49,659,492	+ 10	74,949,473	74,685,642	—	119,995,307	124,345,134	+ 4

SOURCE: F. W. Dodge Division of McGraw Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1978 and 1979 figures for nonbuilding construction contracts were $1,821,304,000 and $892,825,000 respectively, or a decrease of 51 percent. U. S. figures for nonbuilding construction contracts were $39,934,701,000 and $42,032,763,000 or an increase of 5 percent.

Quarterly Motor Vehicle Employment and Assembly

Item	1977			1978				1979			
	2	3	4	1	2	3	4	1	2	3	4
EMPLOYMENT[a]											
Checker											
Michigan	1,024	1,102	1,166	1,117	1,118	1,084	1,140	1,207	1,194	1,182	1,099
Chrysler											
Michigan	83,490	82,701	84,047	78,744	82,799	75,187	81,664	75,316	70,238	58,182	55,456
United States	135,089	135,039	137,286	131,066	136,158	125,989	135,997	125,899	118,532	99,754	98,228
Ford[b]											
Michigan	117,858	118,775	124,098	124,187	127,148	126,300	135,377	132,298	129,526	117.630	111,790
United States	223,031	222,119	233,911	234,635	239,517	233,314	253,536	245,253	240,054	211,763	196,038
General Motors											
Michigan	265,000	252,000	280,000	264,000	278,000	267,000	289,000	295,000	296,000	291,000	288,000
United States	586,000	564,000	624,000	588,000	619,000	594,000	643,000	644,000	650,000	582,000	602,000
ASSEMBLY											
Dearborn	28,695	39,828	37,107	40,230	70,007	39,072	83,017	96,572	92,774	85,970	68,819
Detroit	131,092	126,505	126,739	130,969	140,723	54,857[c]	89,563[c]	130,475[c]	113,866[c]	56,399[c]	78,055
Detroit (truck)	8,368	8,667	7,577	7,587	11,443	11,142	30,753[c]	33,693[c]	28,503[c]	12,861[c]	16,534
Flint	124,983	53,905	100,181	93,380	104,042	76,157	109,192	115,405	110,135	56,914	90,222
Flint (truck)	90,812	109,197	103,976	107,414	116,436	103,549	104,839	114,846	95,075	60,985	75,541
Hamtramck	100,421	94,246	72,429	56,098	86,545	56,808	54,230	44,901	62,806	15,345	30,134
Kalamazoo	952	1,314	1,095	1,361	1,036	809	1,019	1,134	1,268	1,203	1,161
Lansing	119,021	45,921	99,322	93,080	110,381	62,327	116,726	130,644	130,363	72,684	96,143
Pontiac	102,368	29,710	83,219	75,104	87,334	61,666	82,652	91,712	85,977	46,578	61,082
Pontiac (bus & truck)	31,661	38,253	40,474	55,041	67,569	61,741	72,398	77,144	73,922	51,628	42,135
Warren (bus & truck)	90,185	78,855	70,738	76,322	94,415	72,181	84,504	76,365	48,873	5,027	19,043
Wayne	76,680	59,823	67,939	76,242	76,599	63,214	55,607	50,477	46,765	34,081	28,800
Wayne (truck)	51,778	32,905	50,706	53,462	56,436	48,390	52,388	56,052	51,994	21,305	34,256
Wixom	52,483	43,875	43,677	42,915	47,639	36,508	46,902	51,132	36,527	20,013	32,604
Ypsilanti	70,270	69,327	62,270	60.220	73,733	57,178	38,891	38,797	75,420	73,508	70,507
Total Michigan											
Passenger car	606,795	564,544	693,978	669,599	798,039	508,596	654,346	751,250	755,901	462,695	557,527
Bus and truck	272,804	266,877	273,471	299,826	341,141	297,003	368,325	358,100	298,367	151,806	187,509
Total United States											
Passenger car	2,639,036	1,931,390	2,306,400	2,267,474	2,656,507	1,850,701	2,398,411	2,411,307	2,482,907	1,655,546	1,884,756
Bus and truck	910,930	849,649	850,989	865,427	1,019,266	851,996	982,232	1,024,655	916,996	529,092	564,118
Total Canada											
Passenger car	362,147	196,129	282,256	289,695	345,842	229,593	297,157	307,823	281,806	171,427	227,966
Bus and truck	162,803	113,923	171,998	171,127	185,031	120,199	180,355	200,162	190,698	107,988	135,532

SOURCE. Ward's *Automotive Reports;* Motor Vehicle Manufacturers Association of the United States, Inc., P-I report; and companies.

a. Average monthly wage and salary employment of companies with assembly plants in Michigan; includes nonautomotive.

b. Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

c. Chrysler's Jefferson Avenue plant has been converted to truck production. The plant had no production during July and August and began assembling trucks during the latter part of September.

n.a.: Not available at this writing.

Travel Update

(Continued from page 3)

mary motive). California led in all these categories. In the number of person-trips and person-nights with outdoor recreation as the main purpose, Wisconsin was second, Michigan third. Michigan also ranked among the top ten states in the categories of sightseeing (sixth), visiting friends and relatives (eighth), and business (ninth).

Accommodations figures were not compiled on a state-by-state basis, but the following observations were made with regard to regions:

> The most popular type of overnight accommodation was with relatives or friends, ranging from 43 percent of nights spent in New England to 61 percent in the Great Lakes Country. New England, the South, and the Far West regions were among the leaders in percentage of nights spent in rental accommodations (slightly over one-third). Nights spent in public or commercial campgrounds were high in the South and Far West regions. Nights spent in own cabin, campsite, or vacation home was highest in the Great Lakes Country and the South.[1]

Michigan travel is more car or truck oriented than the national pattern, and there is less emphasis on airplanes. Compared to the nation, Michigan journeys are more likely to be weekend trips and to involve shorter round-trip distances and more people. Summer is the most popular travel season, more so in Michigan than the nation as a whole (see Table 1).

Of the 19,800,000 person-trips with Michigan destinations made in 1977, 59 percent originated in-state. Michigan ranks eighth in the percentage of total person-trips that have both an in-state origin and destination. California ranked first. Michigan was sixth from the bottom in number of visitors relative to state population, attracting .89 outside travelers with a Michigan destination per resident. California ranked last on this score (see Table 2). However, Michigan and California were above the norm in the number of in-state travelers with an in-state destination per resident. These figures indicate that in these two states, as well as in Texas, Nebraska, Washington, Oregon, Idaho, and Minnesota, the state's amenities appeal more to those who live there than to outsiders. In contrast Nevada can count relatively few residents in its travel market. The same appears to be the case in Washington, D.C., Vermont, New Hampshire, and Delaware, but it should be borne in mind that much driving in these small areas is performed to destinations less than 100 miles from home and therefore excluded from the travel definition.

Rounding out the highlights from the 1977 National Travel Survey are the facts that Michigan travelers are both more affluent and more likely to be factory workers than are other U.S. travelers.

A comparison of the 1972 and 1977 travel data reveals that Michigan was one of only a few states experiencing a decline in the number of person-trips by destination. In person-nights with a Michigan destination, there was an increase of 12 percent, compared with a 21 percent gain in the corresponding national statistic. The data also show that the frequency of visiting friends and relatives here longer, on the average. In 1977, more people came to enjoy the Michigan out-of-doors, but they stayed for shorter periods than in 1972.

The volume of business and convention travel to Michigan changed little between 1972 and 1977, although nationally there was a gain. But Michigan outpaced the nation in the rate of increase in travel motivated by sightseeing and entertainment. The state's share of the national total in the latter category still is modest, however, compared with our share of population and income.

Other Travel Indicators

As part of its economic census program, the Census Bureau also collects data from business establishments. Each is classified according to its major economic activity. A hotel, motel, tourist court, trailer park, or camp that derives most of its revenues from fees for providing lodgings to the general public is classified in the lodgings industry. During 1977, that industry had receipts of $18.5 billion. Among the states, California was the leader with $1.9 billion, Nevada was second, and Florida third. Michigan ranked eleventh, slipping from tenth place in 1972 (see Table 3). Per capita receipts in the Michigan lodgings industry amounted to less than $49 during 1977, an increase of about 60 percent from the 1972 average of $31. Nationally, the industry had receipts of $85 per resi-

TABLE 2
Resident and Nonresident Person-Trips per Capita, by State: 1977

	Person-trips per capita			*Person-trips per capita*	
State	*Residents*	*Visitors*	*State*	*Residents*	*Visitors*
Nevada	.12	12.63	Kansas	1.04	1.42
Washington, D.C.	–	7.77	Kentucky	.63	1.41
Vermont	.12	5.98	Montana	2.31	1.34
New Hampshire	.18	5.08	Minnesota	2.41	1.33
Wyoming	1.80	4.81	Idaho	1.83	1.28
Delaware	.29	3.43	Indiana	.55	1.28
North Dakota	1.99	2.54	Oregon	1.94	1.28
New Mexico	1.81	2.53	Washington	1.78	1.23
Maine	.66	2.50	Rhode Island	–	1.16
South Carolina	1.29	2.13	Louisiana	.92	1.10
Florida	1.16	2.17	Massachusetts	.17	1.10
Colorado	1.56	2.05	Pennsylvania	.63	1.10
Arkansas	1.09	2.02	Nebraska	2.56	1.09
Utah	1.47	2.01	Alabama	.96	1.07
Wisconsin	1.96	1.96	Illinois	.65	1.05
Hawaii	.27	1.95	Connecticut	–	1.00
South Dakota	1.83	1.88	Ohio	.77	1.00
Arizona	1.79	1.81	Maryland	.38	.99
Tennessee	.95	1.79	Michigan	1.27	.89
Oklahoma	1.88	1.67	New Jersey	.22	.82
Virginia	1.00	1.66	Texas	1.96	.80
Missouri	1.22	1.60	New York	.72	.79
West Virginia	.40	1.58	Alaska	.58	.54
Mississippi	.70	1.55	California	1.91	.45
Iowa	1.50	1.53			
Georgia	1.04	1.44	United States	1.12	1.29
North Carolina	1.27	1.44			

SOURCE: Developed from U.S. Bureau of the Census, *1977 Census of Transportation, National Travel Survey, Travel during 1977* (Washington, D.C.: Superintendent of Documents, 1979), Table 28; and U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 794, Table 3.

TABLE 3
Selected Travel-Related Statistics for the Top 20 States in 1977

State	*1972*	*1977*	*Percentage change*
Lodgings industry *(receipts in millions of dollars)*			
California	1,065	1,937	82
Nevada	738	1,733	135
Florida	1,042	1,577	51
New York	918	1,295	41
Texas	499	912	83
Illinois	447	776	74
Pennsylvania	457	712	56
Hawaii	242	549	127
Ohio	291	503	73
Georgia	257	462	80
Michigan	278	453	63
Virginia	249	452	82
New Jersey	278	390	40
Massachusetts	237	351	48
Missouri	221	333	51
Tennessee	168	323	92
Louisiana	157	314	100
North Carolina	181	311	72
Colorado	188	306	63
Minnesota	189	302	60
United States	10,638	18,453	73
Eating and drinking places *(receipts in millions of dollars)*			
California	4,435	7,295	64
New York	3,642	4,345	19
Texas	1,671	3,337	100
Illinois	2,107	3,142	49
Ohio	1,842	2,680	45
Pennsylvania	1,716	2,456	43
Florida	1,527	2,665	75
Michigan	1,564	2,248	44
New Jersey	1,344	1,715	28
Massachusetts	1,190	1,628	37
Wisconsin	831	1,110	34
Indiana	880	1,320	50
Virginia	621	1,207	37
Missouri	732	1,195	63
Washington	656	1,182	80
Georgia	655	1,178	80
North Carolina	576	1,135	97
Maryland	693	1,101	59
Minnesota	628	948	51
Tennessee	485	936	93
United States	35,048	55,581	59
Vehicle miles driven *(millions of miles)*			
California	126,488	150,300	19
Texas	76,690	99,266	29
Pennsylvania	67,034	72,269	8
New York	74,649	71,348	− 4
Ohio	63,505	70,082	10
Florida	54,589	67,007	23
Illinois	59,383	66,947	13
Michigan	57,817	63,361	10
New Jersey	47,032	50,893	8
Georgia	33,868	42,646	26
Indiana	36,785	41,322	12
North Carolina	34,031	40,310	18
Virginia	32,717	38,101	16
Tennessee	27,504	36,416	32
Massachusetts	29,442	33,779	15
Missouri	29,248	33,329	14
Wisconsin	27,566	31,572	14
Minnesota	24,878	28,143	13
Alabama	19,032	28,012	47
Washington	22,363	27,449	23
United States	1,268,342	1,476,567	16

SOURCE: U.S. Bureau of the Census, *1972 Census of Selected Service Industries Area Statistics* (Washington, D.C.: Superintendent of Documents, various dates, depending on the state), Table 1 in each of the relevant state reports; U.S. Bureau of the Census, *1972 Census of Retail Trade, Area Statistics* (Washington, D.C.: Superintendent of Documents, various dates, depending on the state), Table 2 in each of the relevant state reports; U.S. Bureau of the Census, *1977 Census of Service Industries, Area Statistics, Advance Report* (Washington, D.C.: Superintendent of Documents, various dates, depending on the state), Table 1 in each of the relevant state reports; and U.S. Federal Highway Administration, *Highway Statistics* (Washington, D.C.: Superintendent of Documents, annually), Table VM-2.

declined, but those who did come for this purpose stayed dent, a gain of 67 percent over the 1972 figure of $51. In per capita rankings, Michigan slipped from 43 to 46.

The term "eating and drinking places" is used for the industry comprised of establishments that derive most of their revenues from the sale of prepared food and drink, or from alcoholic beverages sold for consumption on the premises. This industry includes fast food merchants such as MacDonalds and Tastee Freeze, but not party stores. In total receipts of eating and drinking places, Michigan ranked eighth during 1977, down from seventh in 1972. On the basis of per capita receipts by eating and drinking places, Michigan went from 18 to 20 in the rankings.

All these figures are only crude travel indicators. Most restaurants serve primarily the local market, not travelers. Furthermore, an appreciable, although unknown, proportion of hotel and motel receipts is derived from serving nearby residents in the bar and restaurant. However, the data do suggest that travel is a considerably less important component in Michigan's economy as compared to the nation's. In general, the National Travel Survey evidence that Michigan's share of travel declined between 1972 and 1977 is borne out by the Census Bureau information.

These points are corroborated in materials prepared by the U.S. Travel Data Center for 1972 and 1976. The center, an independent, nonprofit research and educational organization, estimated that travel-generated business receipts in Michigan amounted to $1.4 billion during 1972.[2] This placed Michigan eleventh from the bottom in U.S. domestic travel expenditure as a percentage of total income generated in the state. By 1976, the Michigan figure had grown to $3.8 billion, a gain of 179 percent.[3] For the nation as a whole, domestic travel expenditures increased almost 200 percent.

A recent study by Michael J. Ellerbrock and James C. Hite focused strictly on tourism.[4] Their statistical model ranks Michigan thirty-sixth in the total number of jobs generated by tourism and forty-fifth in tourist employment as a percentage of total labor force. They used data for 1975.

Concluding Remarks

Michigan is so committed to the manufacture of motor vehicles that all other economic activity seems to pale in comparison. In northern Michigan, however, where there is almost no heavy industry, the economy depends on tourism to a very considerable extent. It is the lifeblood of Mackinac County. The restaurants, motels, and shops on Mackinac Island and in St. Ignace provide livelihoods for residents as well as summer jobs for college students throughout the state. Also, travel to northern Michigan is an important amenity to those who work in the southern cities. That Michigan's tourist industry has been affected by high gasoline prices represents a loss to all of us.

In contrast to tourism, the business-convention type of travel in this state is expanding. Moreover, there is a building boom in motels, hotels, and convention centers that portends more of the same for southeastern Michigan, Grand Rapids, and Traverse City.

CITATIONS

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3. U.S. Travel Data Center, *The Impact of Travel on State Economies, 1976* (Washington, D.C.: 1978), p. 21.
4. Michael J. Ellerbrock and James C. Hite, "Factors Affecting Regional Employment in Tourism in the United States," *Journal of Travel Research* 18 (Winter 1980): 30.

BRIEFS

As of 31 December 1978, regulatory **loan companies** showed assets of $435 million, an increase of 6.5 percent over December 31, 1977, according to the *Annual Report, Financial Institutions Bureau, Calendar Year 1978*, recently released. Loans outstanding increased by 2.6 percent during 1978, compared to an increase of 1.7 percent in 1977. Income before taxes and interest on borrowed funds increased 8.97 percent in 1978, compared to a 14.08 percent increase during the previous year. Total operating income rose by 2.9 percent, while total operating expenses declined by one percent. Net earnings, before interest paid, to average assets increased to 7.38 percent, compared to 6.94 percent in 1977.

During 1978, the number of regulatory loan licenses decreased from 387 to 375; 402 examinations were conducted during the year. As a result of these examinations, overcharges in excess of $48,000 were returned to borrowers.

On December 21, 1978, Governor William Milliken signed into law an amendment raising the statutory loan limit from $1,500 to $3,000. Maximum rates of charge were also altered to those recommended by the Governor's Advisory Commission on the Regulation of Financial Institutions. The amended law took effect March 30, 1979.

Steve Pscodna of the Michigan Agricultural Reporting Service commented on the increase in U.S. **crop exports.**

Figures released by the U.S. Department of Agriculture in late January show exports of U.S. grains and soybeans running substantially ahead of year-ago levels despite the suspension of grain shipments to the Soviet Union, said the World Food and Agricultural Outlook and Situation Board.

Since the January 4 suspension of shipments to the Soviet Union, inspections for export of grain and soybeans have been over one-third higher than for the same three weeks in 1979.

Despite the suspension of sales, total agricultural exports in 1979/80 are still expected to set records. Department officials project total exports of $36.4 billion, compared to the 1978/79 record of $32 billion. Officials also project total exports to reach a record volume of around 150 million tons, far exceeding last year's record 137.5 million tons.

Wheat exports are still expected to surpass last year's by more than 10 percent, and total 36.1 million tons. Feedgrain exports are projected at a record 65.9 million tons, compared to last year's 60.2 million tons. Soybean sales abroad are forecast at 22.2 million tons, up from last year's record 20.5 million tons.

The largest purchaser of U.S. grains and soybeans again will be Japan, with imports surpassing those of the USSR every year. Other leading markets for U.S. grains and soybeans this year are the European Community, Latin America and Eastern Europe. Based on current projections, Mexico, China, Egypt and Spain are expected to import more U.S. grains than had earlier been anticipated.

The value of exports of **automotive products** to Canada totaled $11.3 billion during the first eleven months of 1979, a gain of 13 percent over the comparable 1978 period. Imports from Canada declined from $9.5 to $9 billion. The net Canadian-U.S. trade balance, in favor of the latter, mushroomed from $495.5 million during the January–November 1978 period to $2.2 billion during the same eleven months of 1979.

The average rate of **unemployment** in 1979 was 6.5 percent in Michigan, according to a recent news release from the Bureau of Labor Statistics. States with rates higher than ours were Hawaii (8.7 percent), Alaska (8.3 percent), Delaware (7.1 percent), Maine (7.1 percent), Oregon (6.7 percent), and Washington (6.6 percent). Rhode Island also experienced 6.5 percent unemployment. The figure for the nation was 5.1 percent.

THE MICHIGAN STATE ECONOMIC RECORD
DIVISION OF RESEARCH
GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
MICHIGAN STATE UNIVERSITY
BERKEY HALL
EAST LANSING, MICHIGAN 48824

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GOVERNMENT UPDATE

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

Michigan's tax burden reached a new peak during 1979 according to preliminary estimates from the Tax Foundation, Inc., and the Bureau of the Census. Combined federal, state, and local levies of $31 billion were 37.2 percent as great as the state's total personal income. The national figure was 36.2 percent. The 1978 figures were 34.8 percent (Michigan) and 35.5 percent (United States).

Federal taxes provided the major impetus. Local tax burdens increased by small amounts in the state and the nation. Nationally, state taxes as a percentage of personal income dropped, whereas in Michigan they rose slightly. Michigan redesigned its tax structure in 1976, making it relatively inelastic with respect to income. In contrast, during the previous slowdown in general economic activity in Michigan, during 1974 and 1975, the state tax burden declined. Local taxes have always been relatively inelastic because the stable property tax is a major component (see Table 1).

As it is used here, the term *tax burden* refers to the relationship between taxes and personal income. This yardstick is crude, among other reasons because a not inconsiderable proportion of taxes is levied on businesses, not households. Michigan's Single Business Tax is an example. While it is no doubt true that businessmen pass their taxes on to the consumer to the extent possible, it is also true that the tax is reflected in reduced earnings by stockholders, management, and labor. Finally, the SBT is, to an unknown extent, passed on to consumers and stockholders in other states, and they return the gesture. Texans, for example, benefit from our gasoline purchases.

The federal tax burden is approximately double the combined state and local levies. However, some of that money finds its way back through federal aid to state and local units. During 1979, about one of every six dollars in federal taxes was returned to Michigan in this manner. In 1976, however, a year of relatively low taxation compared with the decade average, Washington returned over 20 percent of taxes collected here to Michigan state and local units. Consequently, the net burden of federal taxes increased even more sharply than the gross, from 17.6 percent during 1976 to 21 percent in 1979. Three years ago the net federal tax burden on the nation as a whole was 17 percent; last year it was 21 percent (see Table 2). State governments have borne the brunt of Washington's parsimony with the taxes it collects (see Table 1).

States also have revenue sharing programs with local units. In Michigan, portions of the personal income tax, cigarette tax, alcoholic beverage taxes, sales tax, inheritance tax, and intangibles tax are earmarked for schools, cities, villages, townships, and counties, as well as for the state general fund. The state also makes grants to local units from this fund. During 1979, the ratio of state aid to personal income in Michigan was the same as during 1976, whereas nationally the figure declined.

Tax figures adjusted for revenue sharing reveal a large increase in the federal burden, a modest increase in the state burden, and a modest decline in the local burden since 1976 (see Table 2). In comparison with 1968, the local burden has gained most rapidly, followed by the state, with a modest increase at the federal level. Over the decade there has

TABLE 1
Taxes, Federal Aid, and State Aid as a Percentage of Total Personal Income, Michigan and the United States, Fiscal Years 1967–1979

	1967	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*
Tax burden													
Federal taxes													
Michigan	n.a.	23.0	n.a.	24.2	n.a.	21.8	n.a.	22.3	n.a.	22.2	n.a.	23.0	25.1
All states	n.a.	22.3	n.a.	23.9	n.a.	21.8	n.a.	22.1	n.a.	21.2	n.a.	23.5	24.2
State taxes													
Michigan	5.4	6.2	6.6	6.4	6.7	7.4	7.7	7.1	6.5	6.6	7.2	7.2	7.3
All states	5.3	5.6	5.9	6.1	6.2	6.7	6.9	6.7	6.7	6.8	7.0	7.0	6.9
Local taxes													
Michigan	4.2	4.3	4.4	4.6	4.9	5.3	4.8	4.9	5.1	5.2	4.8	4.6	4.8[a]
All states	4.8	4.8	4.9	5.0	5.2	5.6	5.4	5.1	5.1	5.1	5.2	5.0	5.1[a]
State and local taxes													
Michigan	9.6	10.5	11.0	11.0	11.6	12.7	12.5	12.0	11.6	11.8	12.0	11.8	12.1
All states	10.1	10.4	10.8	11.1	11.4	12.3	12.3	11.8	11.8	11.9	12.2	12.0	12.0
Federal, state, and local taxes													
Michigan	n.a.	33.5	n.a.	35.2	n.a.	34.5	n.a.	34.3	n.a.	34.0	n.a.	34.8	37.2
All states	n.a.	32.7	n.a.	35.0	n.a.	34.1	n.a.	33.9	n.a.	33.1	n.a.	35.5	36.2
Federal aid													
To state government													
Michigan	1.9	1.9	1.9	1.9	2.3	2.6	2.9	2.7	3.0	3.3	3.0	2.9	2.8[a]
All states	2.3	2.4	2.4	2.5	2.7	3.0	3.2	2.9	3.0	3.2	3.2	3.1	3.0[a]
To local government													
Michigan	.2	.2	.2	.3	.4	.6	.9	.8	.9	1.3	1.2	1.3	1.3[a]
All states	.3	.3	.3	.3	.4	.5	.8	.9	.9	1.0	1.1	1.2	1.2[a]
Total													
Michigan	2.1	2.1	2.1	2.2	2.7	3.2	3.8	3.5	3.9	4.6	4.2	4.2	4.1[a]
All states	2.6	2.7	2.7	2.8	3.1	3.5	4.0	3.8	3.9	4.2	4.3	4.3	4.2[a]
State aid to local governments													
Michigan	3.4	3.2	3.4	3.4	3.8	3.8	3.7	3.9	3.9	3.9	4.1	4.0	3.9[a]
All states	3.1	3.1	3.3	3.4	3.8	4.0	4.0	4.0	4.3	4.3	4.2	4.1	4.0[a]

SOURCE: Developed from Tax Foundation, Inc., *Monthly Tax Features*, February 1980, p. 4; Bureau of the Census, *State Government Tax Collections in 1979* (Washington, D.C.: 1980), GF79, No. 1, Table 2; Bureau of the Census, *Governmental Finances in 1977–78* (Washington, D.C.: 1980), GF78, No. 5, Table 5; and similar documents for 1975–1976 (Table 17); 1974–1975 (Table 17); 1972–1973 (Table 17); 1970–1971 (Table 17); 1969–1970 (Table 17); and 1968–1969 (Table 17); Bureau of the Census, *1977 Census of Governments*, vol. 4, *Governmental Finances*, no. 5, *Compendium of Government Finances* (Washington, D.C.: 1979), Table 47, and similar documents for 1972 (Tables 3 and 46) and 1967 (Tables 3 and 46); and Bureau of Economic Analysis, Regional Economics Information System.

n.a. not available.

[a] Author's estimates.

been a very rapid rise in federal revenue sharing and a small gain in state revenue sharing.

Governments also collect various fees and a miscellany of other revenues. Among state and local units, this "all other" category has grown rapidly. However, it still is a minor source of revenue, accounting for about 18 percent of state and local resources in this state (3.8 as a percentage of personal income).

TABLE 2
Tax Burden before and after Federal and State Aid, Michigan and the United States, Fiscal Years 1968, 1976, and 1979

	Michigan			*United States*		
	1968	*1976*	*1979*	*1968*	*1976*	*1979*
Taxes collected as a percentage of personal income						
Federal	23.0	22.2	25.1	22.3	21.2	24.2
State	6.2	6.6	7.3	5.6	6.8	6.9
Local	4.3	5.2	4.8	4.8	5.1	5.1
Total	33.5	34.0	37.2	32.7	33.1	36.2
Tax burden after revenue sharing						
Federal	20.9	17.6	21.0	19.6	17.0	20.0
State	4.9	6.0	6.2	4.9	5.7	5.9
Local	7.7	10.4	10.0	8.2	10.4	10.3
Total	33.5	34.0	37.2	32.7	33.1	36.2

SOURCE: Developed from Table 1.

FEDERAL SPENDING

Spending figures for all units of government for 1979 have not been compiled at this writing. Those for 1978 show that the burden of national defense declined substantially between 1968 and 1976, and that trend has continued. Federal direct expenditure from trust funds grew substantially more rapidly than income between 1968 and 1976, and that trend has continued. Social Security is the major federal trust fund. Others are federal employee retirement, railroad retirement, and veterans' life insurance. Trust fund expenditures surpassed outlays for national defense during the mid-1970s, and by 1978 the difference amounted to $16 billion, or one percent of the total personal income statistic.

The combined burden on taxpayers of public welfare, health, and veterans' programs administered from Washington grew rapidly between 1968 and 1976. Since then, these social service and income maintenance programs have declined relatively (see Table 3).

TABLE 3

Direct Federal Expenditures and Revenues as a Percentage of Personal Income, Fiscal Years 1968, 1976, and 1978

	1967	*1976*	*1978*
Expenditures			
Defense	13.0	7.6	6.9
Insurance trust	5.0	7.7	7.9
Social services and income maintenance	1.5	2.4	2.3
All other	6.3	6.7	7.0
Total	25.8	24.4	24.1
ITEM: federal wages and salaries	6.3	4.9	4.5
Revenues			
Taxes	22.3	21.2	23.5
Other	3.3	3.5	2.5
Total	25.6	24.7	26.0

SOURCE: Developed from Bureau of the Census, *Governmental Finances in 1977–78* (Washington, D.C.: 1980), GF78, No. 5, Table 2, and a similar document for 1967–1968 (Table 2); and Bureau of Economic Analysis, Regional Economics Information System.

The overall trend of a decade of diminishing importance of direct federal expenditure might seem to contradict the increasing burden of federal taxes. The cause was revenue sharing, between 1968 and 1976, and a drop in the size of the deficit in federal government finances since 1976.

STATE AND LOCAL SPENDING

Among other things, the 1970s will be known for the enormous pressures on state governments, particularly in Michigan. Between 1970 and 1975, the number of people drawing welfare checks in this state more than tripled. The nation, including Michigan, was caught in a crime wave. Cleaning up the environment became urgent. The inevitable result was escalating costs for public welfare, police and fire protection, waste treatment, and general government control. From a ranking of 26 in state and local government expenditures as a percentage of personal income in 1968, Michigan rose to 23 in 1976. In addition to the taxpayer, students and faculty at Michigan's colleges and universities bore the brunt. State higher education appropriations declined from 1.2 to one percent of personal income between 1968 and 1976 (see Table 4). Highway spending and state aid for schools kept pace with the general growth of the Michigan economy. By 1978, the welfare crunch had abated, and spending for highways had declined in importance, enabling the state to shift resources to public schools. Meanwhile, local support of public schools decreased as a percentage of personal income; consequently, the burden of providing high school degrees has diminished since 1976, both in Michigan and in the nation.

TABLE 4

Direct General Expenditures of State and Local Governments, Michigan and the United States, by Category, Fiscal Years 1968, 1976, and 1978

	Michigan			*United States*		
	1968	*1976*	*1978*	*1968*	*1976*	*1978*
Local schools						
State aid	2.2	2.2	2.4	1.6	2.0	1.9
Local effort	2.6	3.5	2.6	2.9	3.1	2.7
Total	4.8	5.7	5.0	4.5	5.1	4.6
State higher education appropriations	1.2	1.0	1.0	1.0	1.0	1.0
Local higher education	.2	.3	.4	.2	.3	.3
Welfare	1.3	3.2	2.8	1.5	2.4	2.3
Health and hospitals	1.3	1.6	1.6	1.2	1.6	1.5
Highways	1.6	1.6	1.2	2.2	1.8	1.5
Police	.5	.8	.8	.5	.7	.6
Fire protection	.3	.3	.3	.3	.3	.3
Sewerage	.3	.5	.5	.3	.5	.4
Other	3.2	4.7	4.2	3.7	5.3	5.4
Total	14.8	19.7	17.8	15.4	19.0	17.9

SOURCE: Developed from Bureau of the Census, *Governmental Finances in 1977–78* (Washington, D.C.: 1980), GF78, No. 5, Table 12, and similar documents for 1975–1976 (Table 18) and 1967–1968 (Table 18); and Bureau of Economic Analysis, Regional Economics Information System.

Overall, toward the end of the decade, the financial burden of state and local government was slightly less than the national average in Michigan, whereas in the mid-1970s it was appreciably greater.

TABLE 5

Full-time Equivalent Employment of State and Local Governments per 10,000 Population in Michigan and the United States, by Function, October 1968, 1976, and 1978

	Michigan			*United States*		
	1968	*1976*	*1978*	*1968*	*1976*	*1978*
Education						
Local schools						
Instructional staff	115.5	127.1	135.2	111.7	126.9	128.0
Other	53.0	72.5	69.1	45.5	53.0	55.6
Total	168.5	199.6	204.2	157.1	179.9	183.6
Higher education						
Instructional staff	15.3	19.8	19.9	14.0	19.0	19.4
Other	32.0	36.9	39.9	21.9	30.2	31.4
Total	47.3	56.7	59.8	35.9	49.2	50.8
Other	1.9	2.7	2.6	2.8	4.0	4.2
Total education	217.6	258.9	266.7	195.8	233.1	238.6
Welfare	6.6	16.4	17.9	11.1	15.9	16.7
Hospitals	42.4	40.6	45.8	39.3	44.7	48.0
Health	4.0	7.1	8.4	5.3	8.8	9.6
Highways	21.2	19.0	17.3	28.1	25.7	25.5
Police	18.5	23.3	26.4	20.5	25.4	26.0
Fire protection	8.5	8.3	8.3	9.0	10.0	9.8
Sewerage	2.2	3.1	3.0	2.8	3.8	4.0
Other sanitation	4.7	3.3	4.3	5.9	5.7	5.7
Parks and recreation	4.9	5.1	6.0	5.6	6.9	7.5
Natural resources	4.1	5.6	6.3	7.5	8.2	8.7
Correction	5.4	7.8	9.5	6.4	9.6	10.2
Local libraries	2.4	2.2	2.1	2.7	3.0	3.0
Employment security administration	3.1	5.4	4.3	3.3	4.8	4.8
Financial administration	9.8	10.2	11.7	10.2	12.1	12.9
General control	9.7	17.0	17.8	11.5	15.9	17.0
Water supply	4.6	4.7	5.3	5.4	5.5	5.6
Other local utilities	5.0	5.2	5.8	7.6	8.8	9.0
State liquor stores	.7	.6	.7	.7	.7	.6
Other	11.4	17.5	19.9	17.1	26.8	28.5
Total	386.9	461.4	487.4	395.9	475.5	491.8

SOURCE: Bureau of the Census, *Public Employment in 1978* (Washington, D.C.: 1979), GE78, No. 1, Table 11, and similar documents for 1976 (Table 11) and 1968 (Table 11).

(Continued on page 6)

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.6	41.0	39.2 (Nov.)
Average weekly hours, U.S.	40.9	40.3	40.2 (Nov.)
Average hourly earnings, Michigan ($)	8.52	8.91	8.87 (Nov.)
Average hourly earnings, U.S. ($)	6.38	6.82	6.85 (Nov.)
U.S. motor vehicle production (units)	1,053,539	696,353	791,521 (Feb.)
Michigan electricity usage (mil. kwh.)	5,830	5,701	5,607 (Nov.)
Industrial (mil. kwh.)	2,846	2,679	2,544 (Nov.)
Residential (mil. kwh.)	1,714	1,652	1,740 (Nov.)
Raw steel production:			
Michigan (000 net tons)	1,002	751	839 (Jan.)
United States (000 net tons)	11,105	9,996	10,701 (Jan.)
Consumer price index (1967 = 100)			
Detroit area	204.9	233.3	236.4 (Jan.)
United States	204.7	229.9	233.3 (Jan.)
U.S. wholesale price index (1967 = 100)	220.8	249.4	254.7 (Jan.)
Michigan farm prices received index (1967 = 100)	220	236	232 (Jan.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, January 1979 - January 1980

(Thousands of dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	7,588	2,413	− 68	954	2,310	+100	8,512	4,723	− 45
Battle Creek	247	747	+100	2,284	518	− 77	2,531	1,265	− 50
Bay City	1,100	540	− 51	366	252	− 31	1,466	792	− 46
Detroit	53,958	58,206	+ 8	70,173	31,197	− 56	124,131	89,403	− 28
Flint	3,377	11,281	+100	3,263	1,501	− 54	6,640	12,782	+ 93
Grand Rapids	13,077	40,432	+100	9,440	7,105	− 25	22,517	47,537	+100
Jackson	701	3,501	+100	459	578	+ 26	1,160	4,079	+100
Kalamazoo-Portage	620	1,577	+100	2,105	3,167	+ 50	2,725	2,744	+ 74
Lansing–East Lansing	2,976	6,249	+100	5,040	7,761	+ 54	8,016	14,010	+ 75
Muskegon–Norton Shores–Muskegon Heights	656	562	− 14	1,012	1,843	+ 82	1,688	2,405	+ 44
Saginaw	1,668	1,998	+ 20	1,161	3,645	+100	2,829	5,643	+ 99
Michigan	106,718	136,387	+ 28	108,928	79,742	− 27	215,646	216,129	+ .2
United States	3,958,700	4,351,800	+ 10	4,530,000	4,100,000	− 9	8,488,700	8,451,800	− .4

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

[a] Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $114,591,000 and $27,094,000 respectively, or a decrease of 76 percent. U. S. figures for nonbuilding construction contracts were $3,297,600,000 and $2,628,400,000 or a decrease of 20 percent.

Year-to-Year Change in Selected Economic Indicators

Indicator	First quarter	Percentage change from previous year										
		1979									1980	
	1979	April	May	June	July	August	September	October	November	December	January	February
Civilian employment												
United States	3.8	2.7	2.5	2.2	2.8	2.2	2.7	2.1	2.0	2.2	1.8	1.6
Michigan	2.2	−.1	3.2	2.9	3.5	3.1	1.6	1.6	1.6	−.7	−2.3	−3.3
Detroit area[a]	1.3	−.9	3.1	2.7	3.0	2.3	1.1	.8	.7	−1.3	−3.4	
Outstate[b]	3.0	.6	3.2	3.0	3.9	3.9	2.1	2.4	2.5	0	−1.2	
Wage and salary jobs[c]												
United States	4.6	3.6	3.7	3.5	3.5	3.2	3.1	2.9	2.7	2.6	2.3	
Michigan	3.3	1.1	1.6	1.4	.9	−.3	−1.0	−1.1	−1.7	−2.3	−2.3	
Detroit area[a]	2.4	−.2	.9	.5	—	−1.8	−2.3	−2.5	−3.2	−3.2	−4.5	
Outstate[b]	4.1	2.5	2.4	2.3	1.9	1.3	.4	.2	−.2	−1.5	−.1	
Average workweek[d]												
United States	1.4	−3.7	−.7	−.7	−.7	−1.0	−1.2	−1.0	−1.7	−.6	−.3	
Michigan	2.1	−12.9	−.9	−2.6	−4.2	−4.7	−6.5	−8.1	−10.1	−9.4		
Average weekly earnings[e]												
United States	10.5	4.3	8.4	8.2	7.8	7.2	6.8	6.8	5.5	7.4	7.1	
Michigan	12.4	−6.0	8.8	5.7	4.4	2.5	−3.9	−1.9	−6.3	−4.7		
Motor vehicle assembly												
United States	9.7	−16.8	1.9	−7.6	−6.2	−28.8	−22.4	−20.1	−31.8	−33.5	−38.2	−33.9
Michigan	14.5	−17.9	−1.3	−5.1	−13.3	−30.6	−27.8	−46.8	−29.8	−41.1		
General Motors	20.4	−5.2	10.5	−.4	−14.2	−14.9	−24.2	−52.4	−17.8	−27.6		
Ford	19.4	−7.5	−8.0	−12.0	18.2	−28.9	−17.8	−18.2	−28.3	−51.4		
Chrysler	−8.0	−61.1	−24.2	−12.9	−41.6	−76.2	−53.6	−62.4	−64.8	−69.1		
Steel tonnage poured												
United States	10.4	5.8	3.8	3.1	3.8	−2.1	−8.1	−10.7	−14.2	−15.4	−3.6	
Michigan	20.6	22.4	13.7	7.8	−1.0	.2	−13.8	−20.5	−18.2	−18.9	−16.3	
Commercial electricity consumption												
United States	5.3	6.7	6.7	1.0	−.2	.5	−.6	1.0	2.2			
Michigan	6.1	6.1	8.7	3.0	3.5	1.0	−5.2	1.0	3.5			
Industrial electricity consumption												
United States	8.8	8.9	5.7	3.5	3.8	2.4	−.1	.3	.1			
Michigan	10.9	−2.1	3.5	1.7	.5	−6.3	−7.6	−10.1	−11.2			
Nonresidential construction contracts												
United States	28	23	1	22	1	10	−6	14	−6	+18	10	
Michigan	62	30	35	162	−17	2	—	−5	28	−8	28	
Residential construction contracts												
United States	13	−13	4	−8	3	−2	4	−3	−21	−9	−9	
Michigan	8	−3	15	7	−10	24	−6	−25	−24	−28	−27	
Nonbuilding construction contracts												
United States	24	81	−32	19	−9	−40	−11	−41	7	+19	−20	
Michigan	−50	55	−3	−17	−67	−79	−82	28	−70	−71	−76	
Retails sales												
United States	13.5	10.3	9.1	7.3	8.1	12.3	9.4	11.3	11.3	8.1		
Michigan	17.0	11.2	9.5	7.2	7.8	6.4	3.0	5.4	6.4	4.6		
Detroit area[a]	18.7	14.0	9.5	9.2	11.1	5.6	1.7	1.6	4.9	3.3		
Detroit city	8.6	4.2	4.2	1.3	6.1	1.0	−3.6	−5.8	−1.3	−3.1		
Suburbs	21.0	16.2	10.8	10.9	12.2	6.6	2.8	3.1	6.2	3.3		
Outstate[b]	15.1	7.8	9.3	4.8	4.2	7.3	4.5	10.1	8.0	5.8		
Consumer price index												
United States	9.8	10.4	10.8	10.9	11.3	11.8	12.1	12.2	12.6	13.3	13.9	
Detroit	11.9	12.1	11.2	10.7	12.8	13.5	13.2	13.1	14.5	15.3	15.7	

SOURCE: Michigan Employment Security Commission, special release, Bureau of Labor Statistics, *The Employment Situation* (monthly); Motor Vehicle Manufacturers Association, special release; American Iron and Steel Institute, special release; Energy Information Administration, special release; F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases (monthly); and Bureau of the Census, *Monthly Retail Trade*.

a. Wayne, Oakland, Macomb, Livingston, Lapeer, and St. Clair counties.

b. Michigan minus Detroit area.

c. The number of wage and salary jobs, except agricultural, reported by employers.

d. Average hours worked by manufacturing production workers.

e. Average earnings among manufacturing production workers.

Government Update

(Continued from page 3)

EMPLOYMENT

Approximately 3.5 million people served in the U.S. armed forces during the late 1960s; by the late 1970s the figure had declined to about 2 million. The number of federal civilian employees has remained fairly constant, at about 2.8 million. Overall, therefore, federal employees have been a sharply declining component in the working population. Their pay declined from 6.3 percent of personal income in 1968, to 4.9 percent in 1976, to 4.5 percent in 1978. Federal administration is costing less and less, in this sense, because increasingly Washington merely shifts financial resources from some sectors of the economy to others.

State and local administrations have grown rapidly, however, because they have had the primary responsibility for delivering the social services increasingly in demand. The employment figures in Table 5 reflect the dollar shifts discussed in the preceding section. Welfare administration has gained dramatically, while that for highways has declined. Law enforcement and correction have gained. The relative number of teachers per 10,000 population increased between 1968 and 1976, a period of growing enrollment in public schools, and it has continued to increase, despite declining enrollments. This phenomenon is even more pronounced in Michigan than nationally. Moreover, since 1976, Michigan teachers' salaries have grown much more rapidly than government salaries generally and more rapidly than college faculty salaries. Notwithstanding the strains imposed by welfare, crime, and pollution, the decade of the 1970s was a golden one for Michigan public school teachers, just as the 1960s were for college professors in the state.

TABLE 6
Average Earnings of Full-Time State and Local Government Employees in Michigan and the United States, October 1968, 1976, and 1978

	Michigan			*United States*		
	1968	*1976*	*1978*	*1968*	*1976*	*1978*
Public school faculty	858	1,384	1,612	725	1,157	1,297
College faculty	1,088	1,765	2,031	1,045	1,635	1,733
Other employees	629	1,151	1,297	555	972	1,085
All employees	702	1,189	1,356	607	1,074	1,139

SOURCE: Bureau of the Census, *Public Employment in 1978* (Washington, D.C.: 1979), GE78, No. 1, Table 7, and similar documents for 1976 (Table 7) and 1968 (Table 6).

A Note on the State Capitol

The *Detroit News Magazine* of 4 March 1979 carried an interesting article on the state capitol, from which we quote.

> The decision to build the capitol in Lansing came only after months of haggling in the state legislature. When Michigan was granted statehood in 1837, Detroit was named the temporary capital, with the stipulation that a permanent site be selected by 1847. That year, the legislature became embroiled in seemingly endless debate as representatives from competing villages and towns tried to win selection as the location for the new capitol building.
>
> When the legislative clerk finally announced that the capital city would be placed in the township of Lansing, loud guffaws resounded through the chambers. Some legislators thought it was a joke since Lansing township was little more than a virgin forest on the Grand River, populated by a few log cabin families. Yet two months later, the measure was passed and signed into law by Governor William L. Greenly. The taming of the wilderness had begun.
>
> But what to call that wilderness was another matter. No one could agree on a name for the new capital. Among those considered were Thorbush, Marcellus, Swendenborg, Algoma, and Pewanogawink. For the first two months, the capital was called Michigan until the legislators grew tried of the repetitive Michigan, Michigan, address and finally settled on Lansing.
>
> Around 1861, rumbling over the inadequacy of the legislative facilities began. Governor Henry P. Baldwin was the first to suggest building a new capitol. In 1871, he persuaded the penny-pinching Grangers to go along.

A pamphlet published by WVIC radio station in Lansing contains additional information about the building; a paraphrase follows.

The state capitol, which stands on eleven acres of land, was dedicated on 1 January 1879. It took six years to complete the building, which cost $1.5 million. Its construction required 15 million bricks, 16,000 square yards of plaster, copper from the Upper Peninsula, stone from five states, tin from Wales, and plate glass from England. On 24 January 1872, the *Tuebor* ("I will defend") design of Elijah E. Meyers, a self-taught architect from Illinois, was chosen over 22 others. Done in the Palladian style, his cruciform floor plan with high central dome was simple and relatively inexpensive to construct.

The cornerstone was laid on 2 October 1873. It contained a copper receptacle holding 48 items, among them a copy of the state's constitution, a Bible, a history of Michigan, coins, and a report on crime and pauperism in the state. (When the cornerstone was uncovered during rebuilding activity in November 1978, it was discovered that most of the contents had been virtually destroyed by moisture.) The cornerstone weighed five tons and was quarried from Cape Ann, Massachusetts. At the ceremony, 35,000 people watched a parade of 5,000 persons, including 25 bands, march down Michigan Avenue. Governor John J. Bagley gave a short speech before the stone was lowered into place.

The main portico of the capitol is supported by six Tuscan columns 20 feet high. Above are Ionic columns, then elaborate Corinthian columns under the balcony at the base of the dome. The statuary on the east pediment was designed by Louis T. Ives. It was sculpted by 28-year-old Herman Wehner, who emigrated to Saginaw from Prussia at age six. The bas-reliefs include three female figures. The central one, in Indian garb, represents Michigan. In one hand she holds a book, in the other a globe. To her right is Agriculture, to her left Commerce.

The twelve entrance doors—six at the front portico and two at each of the other entries—were of solid black walnut, more than 14 feet high and almost three inches thick. Doorknobs throughout the building were made of Michigan copper, adorned with apple blossoms or harvest scenes.

The building contains 268 rooms, two grand staircases, and an unusual steam elevator running from the basement to the fourth floor. The oak and iron elevator was handsomely furnished with French veneered panels, moldings and carved work of highly variegated black walnut, stained glass, and a leather sofa.

More than 1,700 gas burners were installed throughout the capitol. Most were lit by hand, but 371 had intricate wiring systems that permitted "electrical ignition." There were also networks for call bells and speaking tubes. The nineteen chandeliers, made of Keweenaw Peninsula copper, each weighed 300–400 pounds. They were designed by Tiffany's in New York, and the state seal appears on each.

The ceilings for the legislative halls were designed by George Mish and Brothers. The seals of each state were etched on panels of ruby and white glass, with the Great Seal of the United States over the entrance to each chamber. There were 170 panels in all, imported from Ravenshead and Sutton of Lancashire, England.

The dome of galvanized iron, with the lantern, is 267 feet above ground level. It covers the most impressive part of the building, the Rotunda, which is visible from three stories inside the capitol. The Rotunda floor is 44.5 feet in diameter and contains 976 blocks of glass. Light from below gives the optical illusion of a dome underneath. The ceilings in the Rotunda and corridors are done in fresco and have never been retouched.

At 9:30 A.M. on 1 January 1879, Governor Charles Crosswell accepted the building for the people of Michigan, the new legislature was convened, and 30 legislators took their seats.

The *Detroit News Magazine* notes that at the time the capitol was completed,

> Michigan's population was 1.5 million, and the state budget was $2 million. The capitol had only four full-time employes, and temporary help was hired when the legislature convened for five months every two years. Most of the lawmakers were farmers, who were paid $3 a day.

BRIEFS

Peter Jackson of the Michigan Agricultural Reporting Service made the following comments regarding **grain supply and demand forecasts**:

> In late January the World Food and Agricultural Outlook and Situation Board issued their latest supply and demand estimates for U.S. grain crops. The current estimates take into account the January 4 embargo against the USSR, as well as the final estimates of 1979 corn and soybean production.
>
> The major change from the mid-January estimate is in the area of corn exports for 1979–80. The corn export forecast has been raised 125 million bushels to 2,275 million, despite the embargo. The increase reflects Mexico's plan to import more U.S. corn.
>
> The recent upward revision of the already record U.S. soybean production, combined with smaller exports to the USSR has resulted in an increased estimate of soybean carryover stocks for 1979–80.
>
> Wheat also set a record in 1979. The increased production and a 75 million bushel reduction in the export forecast as a result of the embargo have combined to boost the expected carryover stocks of wheat.

The Michigan Agricultural Reporting Service has just released its estimates of **values of crops** produced in Michigan during 1979 (see Table 1). Edward Molenda, Jr., made the following comments:

> Driven strongly higher by a 22 percent boost in the value of field crops, the total value for all crops produced in Michigan during 1979 posted a 15 percent jump over a year ago. The main momentum behind the field crops' increase was a tremendous 110 percent leap in the value of the wheat crop as acreage and production returned to near normal levels. Although the season average price of corn increased 8 percent, the major contributor to the crop value rise of 32 percent was the record yield and production. Corn remains by far the leading Michigan crop in value of production. A 28 percent increase for the season average price of dry beans helped lift its value 42 percent above last season. Soybeans, on the other hand, had a 10 percent season average price dip, but still scored a 33 percent gain in crop value due to the record 1979 crop. The value of hay fell 12 percent mainly because of a lower season average price. Lower season average price and production knocked the value of potatoes down 10 percent. Higher production caused the value of spearmint oil to climb 13 percent. The value of red clover seed held steady.
>
> Commercial vegetables posted a 3 percent increase in value. A drop in production for many of Michigan's fruit crops resulted in a 14 percent decline in overall fruit value.
>
> Nationally, increasing values of production for major field crops were posted for corn, wheat, soybeans, hay and dry edible beans. The value of oats and barley declined.

TABLE 1
Michigan Crop Values
(Thousands of dollars)

Crop or class	*1979*	*1978*
Field and special crops	1,228,112	1,008,067
Corn	570,000	431,568
Soybeans	174,552	130,752
All hay	147,571	167,577
Dry beans	130,340	91,908
Wheat	124,894	59,400
Potatoes	40,979	45,479
Spearmint oil	1,475	1,310
Red clover seed	1,037	1,041
Fruit	164,198	191,710
Commercial vegetables	114,321	111,218
Total value	1,507,668	1,312,036

SOURCE: Michigan Agricultural Reporting Service, *Agriculture Across Michigan*, 15 February 1980, p. 2.

MICHIGAN STATISTICAL ABSTRACT

Fourteenth Edition, 1979

The attractions featured in the 1979 edition of the *Michigan Statistical Abstract* include an 18-page description of this state's economy published in about 1848. Another item of interest is the official version of "The Toledo War." Did you know that Alpheus Felch, our sixth governor, had served in that war?

A new chapter covers Michigan's role in the automotive industry. Included are excerpts and statistics from the 1905 Census of Manufactures, which treated automobiles as a separate subject for the first time. Did you know that by 1905 Michigan displaced Connecticut in capital invested in the automobile industry ($3.7 million), although Ohio ranked first in wage earners? In that year, the entire U.S. auto industry reported 11 women and 32 children employed.

Many data are not published elsewhere. Furthermore, in this latest edition, considerable resources have been devoted to meaningful rearrangement of raw data. For example, counties are listed according to their ranking in per capita income.

The *Abstract* contains the latest statistics on income, employment, population, education, births, deaths, manufacturing, mining, trade, and a host of other subjects.

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RETAIL TRADE CENSUS

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

According to the most recent Census of Retail Trade, the ten fastest growing states in retail sales between 1972 and 1977 were Alaska, Wyoming, Nevada, Washington, Oregon, Idaho, Texas, Hawaii, Montana, and North Dakota. The slowest growing were New York, Rhode Island, Massachusetts, Connecticut, New Jersey, Delaware, Pennsylvania, Vermont, Illinois, and Maryland. Michigan was twelfth from the bottom among states, just ahead of Georgia. The Michigan figure was 55 percent, compared with a national rate of growth in retail sales of 58 percent during the five-year period.

In retail sales as a percentage of personal income, Michigan ranked 40 in both 1972 and 1977. States that rank high on this score are those that are popular with tourists and thus are "exporters" of retail trade. Montana ranked first in 1977, followed by New Hampshire and Vermont. In addition to its popularity among vacationers, New Hampshire attracts out-of-state customers because of its low rate of tax on alcoholic beverages and because it has no sales tax. The District of Columbia, New York, Connecticut, and New Jersey were substantial "importers" of retail trade (see Table 1).

Retail sales as a percentage of personal income increased in nine states between 1972 and 1977: Montana, North Dakota, Nevada, Idaho, South Dakota, Nebraska, Iowa, Hawaii, and Washington. Tourism was responsible for these gains with the exception of Washington, which has benefitted from the aircraft manufacturing boom following the deep slump of orders in the early 1970s.

Michigan had 136 inhabitants per retail trade establishment in 1977, compared with the national average of 114. Only the District of Columbia, Maryland, and Virginia ranked higher in this regard. As one might expect, generally speaking, the more densely populated states had more inhabitants per establishment, whereas the Plains states and Vermont, New Hampshire, and Maine had fewest. Because each place in Michigan serves more people, on the average, sales per establishment amounted to $476,000 here, compared with $390,000 nationally. Only Maryland, the District of Columbia, Alaska, and Nevada exceeded the Wolverine State in this regard.

In some kinds of businesses, small merchants are becoming scarce. Others, no doubt, are growing and incorporating, thereby moving up from the ranks of the small. Some, particularly gasoline service stations, are victims of high energy prices. Still others have been affected by changing American life-styles. Among those retail businesses that are growing most slowly are cigar stores and stands, bars and other drinking places, confectionery stores, and dairy products stores. Opportunity is to be found in such high growth retail industries as book stores, game and hobby shops, sporting goods stores, retail nurseries, gift and souvenir shops, and eating places. Another trend, evident in the data, is toward large size in some kinds of retailing. This is most apparent in the gains made by large department stores at the expense of small department and variety stores. Car dealers also are tending toward bigness and are declining in number.

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TABLE 1

Ranking of States According to Sales by Retail Trade Establishments as a Percentage of Personal Income: 1977

State	*1972*	*1977*	*State*	*1972*	*1977*
Montana	55.94	61.04	Kentucky	51.81	50.79
New Hampshire	62.51	60.21	Missouri	51.69	50.29
Vermont	61.21	59.45	Nebraska	48.13	49.60
North Dakota	47.64	58.77	Iowa	48.73	49.51
Nevada	57.76	58.66	Indiana	50.33	49.43
Maine	59.62	58.24	Hawaii	45.38	48.81
New Mexico	59.64	57.34	Washington	48.25	48.50
Idaho	56.68	56.86	Minnesota	49.51	48.08
Utah	56.56	55.38	Delaware	51.07	48.02
Florida	59.15	55.15	Wisconsin	48.25	47.46
Arizona	55.73	54.94	Kansas	47.22	47.12
Tennessee	56.56	54.38	Virginia	47.90	46.87
Oregon	54.83	54.35	Ohio	47.26	46.82
South Dakota	50.41	54.30	California	47.68	46.28
Arkansas	59.18	54.19	Michigan	47.50	45.93
Wyoming	54.18	53.81	Maryland	47.23	45.59
Louisiana	55.32	52.76	Pennsylvania	47.61	45.12
Georgia	55.49	52.12	Rhode Island	47.03	44.39
Colorado	54.20	52.01	Massachusetts	47.70	44.39
Texas	54.85	51.92	Illinois	45.54	43.41
Mississippi	56.14	51.56	Alaska	45.44	42.43
North Carolina	53.35	51.52	New Jersey	43.13	41.79
South Carolina	54.74	51.33	Connecticut	43.75	41.64
Alabama	54.50	51.20	New York	41.19	37.92
Oklahoma	54.65	51.11	Dist. of Columbia	43.66	33.95
West Virginia	51.35	51.04	United States	49.07	47.46

SOURCE: Developed from U. S. Bureau of the Census, *Census of Retail Trade, 1977, Geographic Area Series, United States* (Washington, D.C.: 1978), RC77-A-52, Table 4, and *Census of Retail Trade, 1972, Area Statistics, United States* (Washington, D.C.: 1975), RC72-A-52, Table 5; and Bureau of Economic Analysis, Regional Economics Information System.

ECONOMIC CENSUSES

Twice each decade, the Bureau of the Census mails questionnaires to all large manufacturers, retailers, wholesalers, builders, mining companies, and businesses that provide selected services. Data on small companies are developed from a sample of such establishments and from records of the Internal Revenue Service and the Social Security Administration. The retail trade category comprises establishments engaged in selling merchandise for personal use or household consumption and in rendering services incidental to the sale of those goods. Such establishments are further classified according to kind of business, reflecting commodity mix or convention. Drug stores, for example, are so classified if they sell prescription drugs, even though a majority of their receipts may be from the sale of cosmetics. Grocery stores, in contrast, derive most of their dollar volume from packaged foods. Since establishments are classified by kind of business, it is not possible to determine sales volumes for particular commodities.

Along with number of establishments and sales, the 1977 Census of Retail Trade has figures on payroll and employment. Paid employees include full- and part-time workers who were working or were on paid holiday, vacation, or sick leave during the pay period including 12 March 1977. Paid employment does not include proprietors and partners of unincorporated businesses.

KIND OF BUSINESS

Both in the nation and in Michigan, between 1972 and 1977, the number of eating places increased, and there were more such establishments in 1977 than any other kind of retail business. They accounted for 7 percent of retail sales in this state (7.7 percent nationally) and increased their share of the retail dollar during the five-year period. Michigan captures a less than proportionate share of restaurant dollars because of its greater emphasis on outdoor recreational activities. Also, many Michiganians spend restaurant dollars in other states, for example, during winter pilgrimages to Florida.

Gasoline service stations are not as numerous as restaurants, but they are responsible for a larger proportion of the retail sales dollar: 8.1 percent in Michigan and 7.8 percent nationally. Between 1972 and 1977, the number of service stations dipped sharply, but owing to higher gas prices, their share of the retail dollar increased.

There were fewer grocery stores in Michigan in 1977 than there were eating places or gasoline service stations, but they took in a larger share of retail receipts than these other two categories combined: 19.1 percent. Nationally, grocery stores received 20.4 percent of all retail dollars in 1977. Between 1972 and 1977, Michigan grocers experienced a sales gain of 39 percent, compared with 58 percent nationally. There is an element of fluke in the Michigan figures; Meijer Thrifty Acres is classified as a department store chain, but it takes food sales from grocery stores. Nevertheless, the statistic signals the change in buying habits engendered by a shift in the pattern of recreational travel. Before high gasoline prices, on hot summer weekends, Michigan highways were choked with station wagons and vans. Going to the lake or a cottage meant carrying groceries from home or buying provisions at the destination. In either case, Michigan packaged food merchants could count on a larger share of the recreational dollar than they can now. Another factor is the rising proportion of small householders, particularly childless couples and singles, who frequent restaurants.

The attachment of Michiganians to automobiles is borne out in the sales data for motor vehicle dealerships. During 1972, franchised vehicle dealers accounted for 17.9 percent of retail sales in Michigan, compared to 16 percent nationally. The 1977 figures were 19.7 percent and 16.9 percent, respectively. Our fondness for new cars is also apparent in data compiled by R. L. Polk and Company: Michigan is first in new car registrations per capita. This is true even though we rank 42 in per capita new imported car registrations. Additional evidence of vehicle affection is found in the most recent consumer expenditure survey published by the Bureau of Labor Statistics. It revealed that vehicle purchases accounted for 8.9 percent of a Detroit household's total expenditures, compared with 7.4 percent for urban households in the nation as a whole.[1]

Used car dealers do not fare well in Michigan. In much of the country, personal transportation is a necessity, regardless of income level. Many dealers in the rural South, for example, purchase used cars in the North, remove the rust, repair and paint them, and sell them to their neighbors. In states such as Michigan, the used car market is depressed because high wages enable us to favor new cars. Also, prices of the new cars available here are below the national average.

Taverns and other places that serve alcoholic beverages capture a much higher percentage of the consumer dollar in Michigan than elsewhere. Michigan's package liquor stores, in contrast, are very much below average in this regard. Besides vying with bars and taverns, forbidden in many states, package stores here compete with liquor counters in grocery stores, also not permitted in some parts of the country, and with the state warehouses that supply them but that also sell to the general public. It seems appropriate to mention that cirrhosis of the liver is a more serious problem in Michigan than in the rest of the nation.

Buying from fresh produce stands and stores is exceptionally popular in Michigan (see Table 2). Garden supply stores also face a high level of demand here. Recreational boat dealers do well, having obvious advantages in the winter-water wonderland. Retailers of home furnishings and equipment other than furniture, clothing, sporting goods, toys, vehicles (other than used cars), and gasoline, along with hardware and department stores and vending machine operators, also experience higher levels of demand here than do their counterparts nationwide. At the other extreme are retail fuel dealers (who compete in a market dominated by relatively cheap and plentiful natural gas supplied by Michigan Consolidated and Consumers Power), mail order houses (which compete with several

(Continued on page 5)

TABLE 2
Comparative Michigan Retail Trade Statistics: 1972–1977

	Michigan sales as a percentage of U.S. sales		*Michigan, number of establishments*		*Michigan sales ($000,000)*		*Percentage increase in sales 1972–1977*		*Michigan, mid-March employment*	
Kind of business	*1972*	*1977*	*1972*	*1977*	*1972*	*1977*	*Michigan*	*U.S.*	*1972*	*1977*
Fruit & vegetable	6.0	9.8	411	361	36.9	96.8	155.2	56.5	641	1,469
Retail nurseries, lawn, & garden supply	7.3	6.2	252	547	60.2	110.8	84.0	115.6	1,152	1,756
Candy, nuts, & confectionery	4.8	6.0	540	409	28.5	34.1	17.2	– 7.0	1,616	1,190
Boats	n.a.	5.9	n.a.	311	n.a.	153.8	64.7[a]	61.1[a]	1,225	1,300
Drinking places	6.0	5.8	4,990	4,242	386.8	448.3	15.9	18.7	20,136	19,552
Household appliances	5.8	5.8	819	661	222.2	273.9	23.3	23.8	3,344	2,898
Hardware	5.7	5.7	1,327	1,316	226.5	347.8	53.6	53.8	4,918	5,855
Radio & television	n.a.	5.5	n.a.	965	n.a.	287.5	102.0[a]	71.1[a]	2,532	3,430
Women's ready-to-wear	5.3	5.4	1,116	1,410	449.2	672.1	49.6	47.2	14,569	16,251
Automatic merchandising machine ops.	5.3	5.3	568	617	160.0	208.4	30.3	31.1	3,452	3,377
Recreational & utility trailer	n.a.	5.3	n.a.	278	n.a.	154.7	92.8[a]	137.7[a]	702	1,035
Dealers, new & used vehicles	5.0	5.2	1,236	1,174	3,678.6	6,290.9	71.0	66.3	31,615	33,285
Men's and boys' clothing & furnishings	5.0	5.2	872	876	278.3	363.5	30.6	24.3	7,183	7,209
Department stores	4.9	5.1	346	319	2,494.1	3,885.6	55.8	50.6	60,042	68,180
Sporting goods & bicycles	5.8	5.1	1,215	1,545	146.8	237.4	61.8	83.4	2,631	3,377
Floor covering	n.a.	5.0	n.a.	711	n.a.	201.5	57.9[a]	65.2[a]	2,209	2,393
Drapery, curtain, & upholstery	n.a.	4.9	n.a.	420	n.a.	37.6	37.9[a]	35.4[a]	839	999
Hobby, toy, & games	4.3	4.9	512	835	38.7	86.4	123.3	94.8	727	1,822
Motorcycles	n.a.	4.8	n.a.	247	n.a.	94.6	– 3.1[a]	62.2[a]	1,276	1,158
Children's & infants' wear	n.a.	4.6	n.a.	182	n.a.	33.9	158.8[a]	74.0[a]	489	1,028
Gasoline service stations	4.4	4.6	8,919	6,572	1,481.6	2,590.9	74.9	67.8	33,524	30,309
Misc. food stores	n.a.	4.6	n.a.	500	n.a.	51.7	136.9[a]	108.3[a]	326	595
Retail bakeries	5.0	4.6	1,048	838	82.8	106.4	28.4	38.2	5,672	5,666
ITEM: PERSONAL INCOME	4.6[b]	4.6[b]	N.A.	N.A.	N.A.	N.A.	59.9[b]	62.5[b]	N.A.	N.A.
Drug stores	4.8	4.5	1,970	1,899	751.9	1,050.1	39.7	48.7	19,784	18,657
Misc. apparel & accessory	n.a.	4.5	n.a.	280	n.a.	32.7	232.8[a]	141.6[a]	360	873
Shoes	4.4	4.5	995	1,037	177.3	254.7	43.7	38.7	5,156	5,032
Books	4.2	4.4	286	457	38.0	81.2	113.4	102.8	1,173	1,565
Women's specialty & accessory, & furriers	3.7	4.4	350	256	34.7	44.8	29.0	7.2	1,130	965
Meat & seafood	3.8	4.3	490	554	107.0	161.0	50.5	34.5	2,003	2,481
Florists	4.3	4.2	878	1,023	69.0	100.2	45.2	49.6	2,896	3,467
ITEM: POPULATION	4.3[b]	4.2[b]	N.A.	N.A.	N.A.	N.A.	1.2[b]	3.9[b]	N.A.	N.A.
Direct selling estabs.	2.8	4.1	292	265	66.0	120.2	82.1	25.2	2,177	2,616
Grocery stores	4.7	4.1	6,634	5,993	4,393.8	6,110.9	39.1	58.3	60,809	58,974
Lumber & other building materials	n.a.	4.1	n.a.	1,166	n.a.	1,015.8	53.0[a]	81.0[a]	8,664	8,935
Misc. retail stores	n.a.	4.1	n.a.	4,034	n.a.	247.1	86.2[a]	75.8[a]	2,600	3,380
Camera & photographic supply	4.7	4.0	132	163	35.7	46.4	29.9	52.7	733	711
Eating places	4.0	4.0	8,998	9,594	1,223.1	2,247.7	83.8	82.9	97,154	142,198
Misc. automotive dealers	n.a.	4.0	n.a.	258	n.a.	31.4	–17.9[a]	9.3	370	248
Record shops & musical instruments	n.a.	4.0	n.a.	544	n.a.	113.6	45.7[a]	87.4[a]	2,019	2,072
Sewing, needlework, & piece goods	3.5	3.9	690	765	55.7	76.9	37.6	23.5	2,370	2,627
Auto & home supply	3.7	3.8	1,303	1,619	290.1	489.7	68.8	70.5	6,061	7,293

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	42.5	42.0	40.0 (Jan.)
Average weekly hours, U.S.	40.1	40.9	39.8 (Jan.)
Average hourly earnings, Michigan ($)	363.89	380.77	361.88 (Jan.)
Average hourly earnings, U.S. ($)	260.25	285.07	277.01 (Jan.)
U.S. motor vehicle production (units)	1,254,814	791,521	795,383 (Mar.)
Michigan electricity usage (mil. kwh.)	6,616	5,762	6,069 (Jan.)
Industrial (mil. kwh.)	2,828	2,369	2,391 (Jan.)
Residential (mil. kwh.)	2,286	1,975	2,199 (Jan.)
Raw steel production:			
Michigan (000 net tons)	878	839	810 (Feb.)
United States (000 net tons)	10,562	10,701	10,332 (Feb.)
Consumer price index (1967 = 100)			
Detroit area	208.8	237.2	240.4 (Feb.)
United States	207.1	233.2	236.4 (Feb.)
U.S. wholesale price index (1967 = 100)	226.7	259.8	261.5 (Mar.)
Michigan farm prices received index (1967 = 100)	225	236	236 (Feb.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 2 Months: 1979 and 1980

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	9,295	11,926	+ 28	3,150	6,343	+101	12,445	18,269	+ 47
Battle Creek	863	2,893	+235	3,042	894	− 71	3,905	3,787	− 3
Bay City	2,222	715	− 68	781	529	− 32	3,003	1,244	− 59
Detroit	147,025	112,664	− 23	129,624	82,354	− 36	276,649	195,018	− 30
Flint	8,518	14,230	+ 67	11,465	4,757	− 59	19,983	18,987	− 5
Grand Rapids	24,085	47,554	+ 97	21,989	18,378	− 16	46,074	65,932	+ 43
Jackson	7,701	3,963	− 49	1,233	886	− 28	8,934	4,849	− 46
Kalamazoo-Portage	1,253	2,125	+ 70	5,522	5,123	− 7	6,775	7,248	+ 7
Lansing–East Lansing	5,726	10,259	+ 79	11,334	14,244	+ 26	17,060	24,503	+ 44
Muskegon–Norton Shores–Muskegon Heights	1,435	656	− 54	2,095	2,652	+ 27	3,530	3,308	− 6
Saginaw	3,117	4,145	+ 33	2,884	4,603	+ 60	6,001	8,748	+ 46
Michigan	241,407	226,637	− 6	217,357	173,599	− 20	458,764	400,236	− 13
United States	7,190,300	7,986,600	+ 11	9,118,100	8,437,400	− 8	16,308,400	16,424,000	+ .7

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $201,300,000 and $72,259,000 respectively, or a decrease of 64 percent. U. S. figures for nonbuilding construction contracts were $9,343,000,000 and $5,050,000,000, or a decrease of 46 percent.

TABLE 2 (Cont.)

Comparative Michigan Retail Trade Statistics: 1972–1977

	Michigan sales as a percentage of U.S. sales		*Michigan, number of establishments*		*Michigan sales ($000,000)*		*Percentage increase in sales 1972–1977*		*Michigan, mid-March employment*	
Kind of business	*1972*	*1977*	*1972*	*1977*	*1972*	*1977*	*Michigan*	*U.S.*	*1972*	*1977*
Furniture	3.7	3.8	1,179	1,221	382.8	529.5	38.3	34.6	7,919	7,515
Gift, novelty, & souvenirs	3.6	3.7	910	1,261	43.3	94.1	117.1	111.4	1,416	2,485
Jewelry	4.0	3.7	819	1,093	123.2	203.2	65.0	74.1	3,249	4,105
Cigar stores & stands	2.9	3.6	142	100	12.3	16.7	35.5	9.0	429	307
Variety stores	3.7	3.6	712	546	272.7	257.0	– 5.7	– 3.4	9,634	7,249
Bottled gas dealers	n.a.	3.4	n.a.	215	n.a.	102.9	117.9[a]	105.4[a]	1,177	1,230
Luggage & leather goods	4.4	3.3	58	80	8.7	12.1	39.0	85.1	279	293
Paint, glass, & wallpaper	n.a.	3.3	n.a.	396	n.a.	80.3	50.6[a]	54.3[a]	1,289	1,473
Misc. home furnishings	n.a.	3.3	n.a.	520	n.a.	47.5	62.3[a]	110.1[a]	728	1,030
Mobile home dealers	3.8	3.3	441	287	140.4	128.8	– 8.3	3.0	1,472	820
Used car dealers	3.0	3.1	1,009	1,083	136.7	217.5	59.2	53.5	1,033	1,109
Family clothing stores	2.5	3.0	565	608	122.8	240.1	95.5	63.5	3,838	5,639
News dealers & newsstands	n.a.	3.0	n.a.	309	n.a.	16.1	37.1[a]	9.4[a]	209	200
Stationery stores	2.8	3.0	171	171	21.2	33.9	60.2	48.4	825	782
Used merchandise	3.2	3.0	1,017	1,469	47.2	84.9	79.7	90.7	1,345	1,876
Dairy products	n.a.	2.6	n.a.	378	n.a.	32.2	– 6.3[a]	25.4[a]	1,044	886
Misc. general merchandise	2.4	2.4	559	507	162.6	238.5	46.7	49.2	3,958	3,750
Fuel oil dealers	n.a.	2.1	n.a.	264	n.a.	142.6	120.0[a]	123.1[a]	1,011	1,162
Liquor stores	1.9	2.1	775	941	189.8	278.2	46.6	31.3	2,578	3,210
Fuel & ice dealers	n.a.	2.0	n.a.	72	n.a.	5.2	–36.5[a]	– 5.0[a]	135	48
Mail order houses	2.0	2.0	231	295	90.0	143.5	59.4	65.2	1,998	2,102
Total retail trade	4.5	4.4	65,854	67,059	20,546.2	31,912.4	55.3	58.1	461,845	523,549

SOURCE: Developed from Bureau of the Census, *1977 Census of Retail Trade, Geographic Area Series, Michigan* (Washington, D.C.: 1979), RC77-A-23, Tables 1 and 2, *1972 Census of Retail Trade, Area Series, Michigan* (Washington, D.C.: 1974), RC72-A-23, Table 1 and similar documents for the United States; and Bureau of Economic Analysis, Regional Economics Information System.

N.A.: not applicable

n.a.: not available

a. Establishments with payroll only.

b. Michigan personal income and population, respectively, as a percentage of U.S.

RETAIL TRADE CENSUS

(Continued from page 3)

aggressive department store chains), dairy products stores, liquor stores, newsstands, family clothing stores, used merchandise stores, used car dealers, stationery stores, and mobile home dealers.

The bottom line for Michigan was a retail trade sector that grew at a rate somewhat below the national average between 1972 and 1977. The main deterrent to faster growth was grocery stores. Aside from these, retailing in Michigan grew slightly more rapidly than in the nation.

EMPLOYMENT

During the mid-March 1977 pay period, Michigan restaurants, lunchrooms, cafeterias, refreshment places, social caterers, contract feeding businesses, and ice cream and frozen custard stands had over 142,000 paid employees, or 27 percent of the retail trade total. Between 1972 and 1977, such establishments were responsible for 75 percent of the job gain in Michigan retail trade, although they accounted for only 9 percent of the increment in retail sales volume. This was possible because food service is very labor intensive; only retail bakeries are more so, no doubt because most of them make some of their merchandise on the premises, itself a labor-intensive activity. Florists, used merchandise stores, drinking places, and confectionery stores also pay a relatively high proportion of their receipts as wages. In Michigan, candy shops include those on Mackinac Island and in St. Ignace and Mackinac City, where fudge is made before audiences of tourists (or fudgies, as they are called locally). Least labor intensive are gasoline service stations, liquor stores, and dealerships in cars, fuel oil, mobile homes, recreational vehicles, utility trailers, and fuel and ice (see Table 3). In these kinds of business, relatively little is done by the retailer to the product.

Department stores, the second largest kind of retail business employer, had more than 68,000 employees in 1977, compared with 60,000 in 1972. Grocery stores, which ranked second in employment in 1972, dropped to third in 1977, employing 2,000 fewer people. Gas stations, car and boat dealers, drug stores, and women's clothing stores also employ a large number of people. Together, only eight of the sixty-one kinds of retail business accounted for 75 percent of all those employed in the Michigan retail trade sector.

At Michigan franchised motor vehicle dealerships selling both new and used cars, payroll per employee in 1977 averaged $14,624, or 22 percent above that in rug, carpeting, and linoleum stores, which were second in average pay. At exclusively domestic make new car dealerships (not shown separately in Table 3), the average Michigan salary level ($14,624) was considerably above the U.S. figure ($12,664). Among dealers with only imported new car franchises, the salary per employee in Michigan was slightly below the U.S. average ($13,416 versus

$13,802, not shown in Table 3). Imported car dealers are heavily concentrated on the two U.S. coasts, which are high wage areas, as is Michigan. As an aside, selling cars and trucks is among the occupations in which women and ethnic minorities are fewest.

In nearly all of the top paying retail businesses, average pay in Michigan is above the national figure. In most of the low paying kinds of retailing, average pay in this state is below the U.S. norm. On balance, Michigan retail workers earn more than the national average; they also are considerably more productive. Consequently, payroll is a lesser expense in Michigan than it is nationally, in most kinds of retail business as well as in retailing overall (see Table 3).

TABLE 3

Sales per Establishment, Payroll per Employee, and Sales per Employee in Retail Trade, Michigan and the United States: 1977

Kind of business	*Sales per establishment ($000)*		*Sales per employee ($000)*		*Payroll per employee ($)*		*Payroll as a percentage of receipts*	
	Michigan	*United States*	*Michigan*	*United States*	*Michigan*	*United States*	*Michigan*	*United States*
Fruit & vegetable	295.8	138.6	65.9	62.8	5,526	5,823	8.4	9.3
Retail nurseries, lawn, & garden supply	202.5	115.5	57.7	43.6	8,901	7,286	15.4	16.7
Candy, nuts, & confectionery	95.0	71.6	28.7	26.6	5,650	4,207	19.7	15.8
Boats	494.6	396.6	115.7	98.0	11,513	9,684	9.9	9.9
Drinking places	105.7	82.1	21.8	20.7	4,117	4,179	18.8	20.2
Household appliance	414.3	269.7	91.6	69.3	9,684	8,855	10.7	12.8
Hardware	264.3	230.1	56.2	50.9	7,357	7,200	13.1	14.2
Radio & television	297.9	212.8	80.5	68.5	9,551	8,880	11.9	13.0
Women's ready-to-wear	476.7	277.2	41.1	37.6	5,830	5,366	14.2	14.3
Automatic merchandising machine ops.	339.7	292.5	50.2	50.5	10,106	8,931	17.4	17.7
Recreational & utility trailer	556.3	553.1	136.7	137.4	11,132	10,260	8.1	7.5
Dealers, new & used motor vehicles	5,358.5	3,958.1	189.0	154.2	14,624	13,006	7.7	8.4
Men's & boys' clothing & furnishings	414.9	306.1	49.9	47.1	8,323	7,561	16.7	16.1
Department stores	12,180.6	8,732.8	57.0	46.8	8,328	6,535	14.6	14.0
Sporting goods & bicycles	153.6	147.7	62.9	54.2	8,001	6,924	12.7	12.8
Floor covering	283.3	234.5	79.7	69.7	11,931	10,283	15.0	14.7
Drapery, curtain, & upholstery	89.5	67.6	33.3	34.1	5,962	6,657	17.9	19.5
Hobby, toy, & games	103.5	95.4	42.3	46.1	4,844	5,326	11.4	11.5
Motorcycles	383.1	310.0	78.8	78.4	8,292	8,761	10.5	11.2
Children's & infants' wear	186.1	140.9	32.4	33.3	4,590	4,646	14.2	14.0
Gasoline service stations	394.2	320.0	82.8	79.9	5,323	5,694	6.4	7.1
Misc. food stores	103.5	98.8	52.9	45.9	5,230	5,594	9.9	12.2
Retail bakeries	126.9	115.5	16.8	16.4	4,634	4,782	27.6	29.1
Drug stores	553.0	468.0	56.0	50.2	7,298	6,804	13.0	13.6
Misc. apparel & accessory	116.9	78.7	34.6	35.0	6,416	5,879	18.5	16.8
Shoes	245.7	202.6	49.8	45.5	7,257	6,782	14.6	14.9
Books	177.6	144.7	49.3	40.3	5,914	5,447	12.0	13.5
Women's specialty & accessory, & furriers	175.0	116.8	44.6	39.7	6,724	5,958	15.1	15.0
Meat & seafood	290.6	224.3	60.8	62.0	6,773	6,937	11.1	11.2
Florists	98.0	81.7	26.2	24.8	5,671	5,288	21.7	21.3
Direct selling estabs.	453.8	351.2	46.0	33.2	8,366	6,885	18.2	20.7
Grocery stores	1,019.7	926.2	101.4	85.1	9,479	7,884	9.3	9.3
Lumber & other building materials	871.2	854.6	112.2	96.3	11,957	10,367	10.7	10.8
Misc. retail stores	61.3	60.9	46.4	40.9	8,663	7,882	18.7	19.3
Camera & photographic supply	284.5	206.4	62.4	65.6	7,703	7,910	12.3	12.1
Eating places	234.3	202.6	15.6	15.9	3,991	4,093	25.6	25.8
Misc. automotive dealers	121.9	130.1	94.6	86.4	7,940	8,325	8.4	9.6
Record shops & musical instruments	208.9	209.0	51.5	53.9	6,819	7,360	13.2	13.7
Sewing, needlework, & piece goods	100.2	102.7	27.0	29.8	3,663	4,160	13.6	14.0
Auto & home supply	302.5	273.9	64.5	60.3	10,006	9,384	15.5	15.6
Furniture	433.7	344.6	68.8	61.9	10,986	9,466	16.0	15.3
Gift, novelty, & souvenirs	74.6	75.6	32.8	32.6	5,001	4,836	15.2	14.8
Jewelry	186.0	159.2	46.4	47.7	7,913	7,945	17.0	16.7
Cigar stores & stands	166.8	126.8	48.2	51.5	4,739	5,509	9.9	10.7
Variety stores	470.7	408.3	34.9	32.4	5,177	4,680	14.8	14.4
Bottled gas dealers	478.6	410.5	82.8	74.4	9,947	9,411	12.0	12.7
Luggage & leather goods	151.7	144.3	39.9	41.9	6,488	6,603	16.2	15.7
Paint, glass, & wallpaper	202.7	200.0	52.7	57.8	9,206	8,886	17.5	15.4
Misc. home furnishings	91.4	110.1	37.9	41.5	6,177	6,597	16.3	15.9
Mobile home dealers	448.6	492.5	148.3	135.5	11,751	11,085	7.9	8.2

TABLE 3 (Cont.)

Sales per Establishment, Payroll per Employee, and Sales per Employee in Retail Trade, Michigan and the United States: 1977

	Sales per establishment ($000)		Sales per employee ($000)		Payroll per employee ($)		Payroll as a percentage of receipts	
Kind of business	Michigan	United States	Michigan	United States	Michigan	United States	Michigan	United States
Used car dealers	200.0	187.6	144.7	122.7	10,717	8,851	7.4	7.2
Family clothing stores	394.9	373.7	41.6	42.5	5,221	5,651	12.6	13.3
News dealers & newsstands	52.2	68.6	49.7	41.3	5,055	4,606	10.2	12.7
Stationery stores	198.1	174.3	41.8	38.6	7,023	6,393	16.8	16.6
Used merchandise	57.8	57.2	34.8	35.0	6,812	6,447	19.6	18.4
Dairy products	85.1	151.7	24.5	34.8	3,192	4,021	13.0	11.6
Misc. general merchandise	470.4	437.5	61.5	60.5	6,517	6,133	10.6	10.1
Fuel oil dealers	540.2	648.3	116.5	114.5	9,083	10,898	7.8	9.5
Liquor stores	295.6	292.4	80.6	83.8	5,441	6,277	6.8	7.5
Fuel & ice dealers	72.0	112.6	69.8	60.1	5,792	7,481	8.3	12.5
Mail order houses	486.6	689.5	66.6	58.9	6,632	8,797	10.0	14.9
Total	475.9	389.8	59.4	53.7	7,106	6,584	12.0	12.3

SOURCE: Developed from Bureau of the Census, *1977 Census of Retail Trade, Geographic Area Series, Michigan* (Washington, D.C.: 1976), RC77-A-23, Tables 1 and 2, *1972 Census of Retail Trade, Area Series, Michigan* (Washington, D.C.: 1974), RC72-A-23, Table 1, and similar documents for the United States.

SIZE

Department stores were by far the largest kind of retailer in this state in 1977, averaging about $12 million in sales. They were largest nationally, too, with $8.7 million. Between 1972 and 1977, the average size of Michigan department stores grew by 60 percent, compared with 32 percent in the United States. The number of department stores in this state declined by 8 percent, whereas there was a 14 percent increase nationwide. No doubt, being the home of three aggressive chains—K-Mart, Hudson's, and Meijer Thrifty Acres—has been a major factor in the performance of Michigan department stores. Variety stores did not fare well in the nation, particularly in Michigan. In general, those with paid employees in this state are dwindling more rapidly than those without. Similarly, the ranks of those that are incorporated are shrinking at a faster rate than those that are not. These sketchy indicators suggest that, between 1972 and 1977, smaller variety stores, although hurt, were not as seriously affected by the growth of department stores as were the larger variety stores. These latter are located in population centers where they compete with department stores, whereas "mom-and-pop" stores still find a favorable environment in small towns.

Franchised car dealers, second in retail size in 1977, are becoming fewer, both in Michigan and nationally. In average size, this state's dealers are larger and growing faster than their U.S. counterparts. The small franchise dealership is being squeezed out, more so in the Wolverine State than in the nation. The same is not true of used car dealers. Both here and elsewhere, there was a proliferation of small used car lots between 1972 and 1977, whereas the number of larger used car dealerships declined.

Among grocery stores, a distant third in average size, the Michigan market has been affected by the very rapid increase in the number of Meijer Thrifty Acres establishments, classified as department stores, but with food departments that rival large grocery chains. Essentially, the struggle for the packaged food dollar has been a battle among titans, with smaller grocers not unscathed, but not as hard hit as larger ones.

Among kinds of business that typically are small, there were both winners and losers between 1972 and 1977. The number of restaurants, liquor stores, women's and children's clothing stores, florists, jewelers, sporting goods stores, hobby shops, camera shops, and book stores increased. The number of retail bakeries, dairy products stores, candy shops, taverns, newsstands, and fuel and ice dealers declined. Changing tastes rather than competition from large retailers seem the more likely cause of these alterations in the structure of small retail business.

COUNTY RANKINGS

Kalkaska was far and away the leader in retail sales growth between 1972 and 1977, followed by Livingston and Crawford counties. These three, in that order, are the fastest growing in the state in population and income. In Baraga County, fourth in the ranking, and where population gains were not impressive, automobile dealerships and gasoline service stations were responsible for the sales spurt. Marquette County, ranked fifth, is the major Upper Peninsula growth center for trade and services and also is not experiencing unusual population growth. Keweenaw County (sixth) has the state's smallest economy. There are no drug stores, apparel stores, automotive dealers, furniture stores, or general merchandise stores, and only one hardware store, six gasoline service stations, eleven food stores, fourteen restaurants, and thirteen miscellaneous retail establishments. The very large percentage increase in retail sales in Keweenaw between 1972 and 1977 resulted from modest increases in the dollar volume of sales to visitors at food stores and in restaurants. Retailing in Montmorency, Oscoda, and Benzie counties was stimulated by population influx.

The number of inhabitants per retail establishment was greatest in the southern part of the state, near the population centers. Sales per establishment were highest in

Macomb, Genesee, Washtenaw, Oakland, and other counties with large urban areas. Keweenaw and Lake counties had the lowest levels of sales per establishment. Not only do large department stores such as K-Mart and Hudson's not locate in sparsely populated areas such as these, but also the small business is even smaller than elsewhere. The average restaurant in Keweenaw had sales of $50,000 during 1977, about 75 percent below the statewide average for this kind of business.

Because of its tiny economy, few retailers find it profitable to locate in Keweenaw, preferring nearby Houghton County. Since people in Keweenaw must go to Houghton or Hancock to purchase many items, the ratio of retail sales to personal income is very low in Keweenaw (see Table 4). Such commuting to market also explains the above average ratio of retail sales to personal income in Houghton County, the destination. There are similar patterns elsewhere. Cass, Barry, Clinton, and Leelanau residents are part of the markets for Berrien, Kent, Ingham, Eaton, and Grand Traverse merchants.

TABLE 4
Ranking of Michigan Counties According to Sales by Retail Trade Establishments as a Percentage of Personal Income: 1977

County	*1972*	*1977*	*County*	*1972*	*1977*
Emmet	92.7	88.7	Marquette	44.8	50.4
Crawford	90.6	85.9	Alcona	56.2	49.7
Wexford	88.6	84.4	Saginaw	49.8	49.3
Roscommon	96.8	83.6	Genesee	51.0	49.3
Cheboygan	86.0	79.0	Ingham	52.6	48.9
Ogemaw	90.2	78.5	Muskegon	52.2	48.8
Otsego	86.7	76.3	Washtenaw	49.9	48.5
Grand Traverse	80.8	71.9	Macomb	46.0	48.0
Kalkaska	68.5	65.6	Menominee	45.7	47.7
Mecosta	63.8	64.9	Jackson	48.5	47.2
Clare	74.6	64.7	St. Joseph	48.4	47.2
Mackinac	70.2	63.3	Oakland	47.1	47.1
Alpena	72.1	62.3	Huron	51.5	46.9
Mason	67.1	61.8	St. Clair	49.5	46.5
Delta	65.9	61.5	Gratiot	50.4	45.5
Eaton	58.7	60.9	Branch	53.0	45.4
Baraga	47.7	60.8	Antrim	50.9	45.4
Schoolcraft	66.1	60.6	Missaukee	47.3	45.2
Montmorency	61.0	60.4	Shiawassee	42.6	44.0
Benzie	57.7	59.9	Calhoun	48.6	43.9
Iron	63.0	59.2	Van Buren	46.9	43.8
Dickinson	64.4	58.2	Osceola	46.7	43.7
Isabella	54.3	58.1	Oceana	49.6	42.6
Montcalm	61.7	57.6	Sanilac	44.0	42.4
Kent	58.1	56.9	Ottawa	41.8	42.1
Chippewa	59.6	56.1	Lake	41.6	41.7
Houghton	61.2	56.0	Newaygo	42.5	41.5
Gogebic	59.7	55.8	Allegan	46.0	40.9
Alger	55.6	55.4	Hillsdale	40.3	39.3
Iosco	57.8	54.3	Livingston	39.8	39.2
Arenac	66.3	54.2	Wayne	42.1	38.8
Gladwin	53.8	54.0	Lapeer	40.3	38.7
Ontonagon	53.2	53.9	Midland	43.6	38.6
Presque Isle	60.2	53.8	Monroe	36.6	37.3
Luce	51.1	53.2	Tuscola	41.9	37.1
Oscoda	52.1	53.0	Keweenaw	27.7	33.6
Lenawee	56.6	52.7	Leelanau	39.1	33.2
Berrien	49.3	52.4	Clinton	34.4	32.8
Ionia	49.0	52.2	Barry	31.3	29.8
Kalamazoo	51.7	52.1	Cass	30.2	28.5
Charlevoix	53.2	51.4	Michigan	47.5	45.9
Manistee	57.0	51.1	United States	49.1	47.5
Bay	55.9	50.6			

SOURCE: Developed from U. S. Bureau of the Census. *Census of Retail Trade, 1977, Geographic Area Series, Michigan* (Washington, D.C.: 1978), RC77-A-23, Table 7, and *Census of Retail Trade, 1972, Area Statistics, Michigan* (Washington, D.C.: 1974), RC72-A-23, Table 6; and Bureau of Economic Analysis, Regional Economics Information System.

Emmet, Crawford, Wexford, Roscommon, Cheboygan, Ogemaw, Otsego, and several other northern Michigan counties have drawing power that extends far beyond their nearby neighbors because they contain the summer homes of residents farther south as well as attract tourists and other short-term visitors.

Wayne County posted a retail sales gain of only 35 percent, lowest in the state. When corrected for price changes, "real" retail sales in Wayne did not grow at all. Department store sales were exceedingly sluggish, gaining only 18 percent (undoubtedly a decline in real terms). Grocers fared less poorly, with a gain of 29 percent (also a real decline), perhaps partly because there were no Meijer Thrifty Acres in Wayne County in 1977. This also may be why hardware store sales grew more rapidly in Wayne than in Michigan or the nation. Almost every kind of retail business in Wayne County experienced slower than national or state rates of growth. Two exceptions were car dealerships and gasoline service stations, which were close to the national norm, indicating that many suburban residents still go to Detroit to buy cars and gasoline. This pattern is probably a by-product of commuting to work. It is likely that dealer competition is more fierce in Detroit than the suburbs, which makes prices more attractive to the consumer.

Other counties with low retail sales growth performance between 1972 and 1977 were Gogebic and Ontonagon, both in the generally depressed western U.P.; Chippewa, in the generally depressed eastern U.P.; Gratiot, suffering from several plant closures; Mason and Muskegon, generally depressed areas on the state's western shoreline; and Calhoun, also generally a depressed area.

CITATION

1. Bureau of Labor Statistics, *Consumer Expenditure Survey: Interview Diary and Interview Survey Data, 1972-73,* Bulletin 1992 (Washington, D.C.: 1978), Tables 11 and 13.

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COUNTY INCOME UPDATE

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

Between 1977 and 1978, earnings in Missaukee County increased by 33 percent, more rapidly than in any other county in Michigan. Oceana and Leelanau were second and third. These three counties benefited from heavy dependence on agriculture, the state's fastest growth sector in 1978. Missaukee's economy is nearly one-third agricultural, Oceana's one-quarter, and Leelanau's more than one-fifth. Huron is the other Michigan county that relies on agriculture for over 20 percent of earnings. Missaukee County farming centers on dairying. Oceana is the nation's asparagus capital and a major producer of tart cherries and apples. Leelanau specializes in tart and sweet cherries. Huron County is the nation's navy bean capital. Agriculture was also the major underlying factor in the high level of growth in Clinton, Ionia, and Van Buren counties, 12 percent, 9 percent, and 10 percent dependent on farming, respectively. Dairying is important in Clinton and Ionia counties, apples and cherries in Van Buren. Although farming is a major element in the Thumb and Little Finger of the state and in a few other areas, it accounted for just over one percent of the Michigan earnings total and for 2.5 percent of the nation's. These data pertain to farming per se, exclusive of the manufacture and distribution of implements, chemicals, and so forth, and of food processing and distribution. These figures have just been released by the Bureau of Economic Analysis (BEA) in Washington, D.C., part of the U. S. Department of Commerce.

BEA county earnings estimates are developed from reports that employers file with state employment agencies and from tax returns filed with the Internal Revenue Service. Total earnings are comprised of labor income and the net incomes of nonincorporated business enterprise, such as proprietary motels, restaurants, and grocery stores, as well as the business of professionals, such as physicians, dentists, lawyers, and trade contractors. These data are the best available yardsticks of economic activity taking place in counties, although they are not as comprehensive as gross national product accounts for the United States. Michigan counties are ranked in Table 1 on the basis of earnings growth rates between 1977 and 1978.

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Montmorency farmers also experienced prosperity during 1978, but farming is responsible for less than 3 percent of earnings there. This small economy is relatively well diversified, with manufacturing the leading sector, retail trade second. Montmorency ranked fifth in 1978 in percentage of earnings derived from retail trade. Merchants depend on summer residents who own or rent cottages, cabins, and the like. Manufacturing does not have the predominance in Montmorency that it has in Michigan's southern regions, accounting for only 35 percent of total earnings during 1978, compared with 44 percent statewide. Nevertheless, earnings in manufacturing gained by 38 percent in Montmorency between 1977 and 1978 (fourth highest in the state), and by 26 percent in retailing (third highest). Since the county's services sector is tiny, the statewide growth in that category was little affected by Montmorency's disappointing performance. The broad services category includes lodgings, amusements, and professional, business, repair, and personal services.

In Antrim County, fifth in earnings growth between 1977 and 1978, about 8.5 percent of earnings was derived from agriculture (principally cherries); this sector enjoyed a 168 percent increase. Services, which accounted for over 12 percent of earnings, grew by 40 percent. Antrim is relatively well endowed with seasonal housing as well as overnight accommodations. The popular Shanty Creek Lodge is located two miles south of Bellaire, and Schuss Mountain lies four miles west of Mancelona.

Grand Traverse enjoyed a spectacular increase in agricultural earnings, but this sector accounted for only 3 percent of the total. Manufacturing, services, and retail trade were the engines of growth here. The lodgings industry attracts conventions as well as tourists. Finance, insurance, and real estate are small but rapidly growing, as Traverse City is the financial distribution center of northern Michigan.

One county was responsible for 70 percent of the earnings increase in mining between 1977 and 1978. In Marquette County, Cleveland Cliffs expanded its mining operations. Low grade iron ore is enriched in taconite plants before shipment to steel centers in Indiana, Illinois, and Ohio. Miners' earnings in Marquette County rose by 43 percent. In 1978, 37 percent of the state's mining activity took place there, compared with 30 percent in 1977. Outside Marquette County, earnings from mining grew by a mere 8.5 percent.

Allegan was propelled by its agricultural and manufacturing sectors. This county ranks tenth in the relative importance of farming and matches the statewide average in dependence on manufacturing.

Ottawa owes its above average growth primarily to construction, but also to services. Finance, insurance, and real estate; retail trade; manufacturing; and agriculture posted earnings gains above state and national averages. The spectacular construction boom (a 65 percent jump in earnings, compared with 21 percent statewide) bodes future economic growth generally, since many of the new structures are factories, stores, and offices. Nearby Kent County also is experiencing a major expansion of its economic base, larger in sheer size than Ottawa's, but smaller in a relative sense because its economy is so much larger. The construction sector in Kent grew by 26 percent. Grand Rapids is the major business center for western Michigan and one of the stellar performers in terms of growth potential among the nation's cities in its population size class.

Other counties with outsized increases in the construction industries are Charlevoix (52 percent), Missaukee (48 percent), Clare (44 percent), Ingham (42 percent), Lapeer (38 percent), Muskegon (37 percent), Isabella (36 percent), St. Clair (33 percent), Otsego (32 percent),

TABLE 1

Ranking of Michigan Counties According to Growth in Labor and Proprietors' Earnings, by County in Which Earned: 1977–1978

	Percentage change			*Percentage change*	
County	*1973-1978*	*1977-1978*	*County*	*1973-1978*	*1977-1978*
Missaukee	54	33	Dickinson	80	14
Oceana	71	25	Jackson	47	14
Leelanau	52	25	St. Clair	58	14
Montmorency	68	24	Mackinac	70	13
Antrim	59	23	Ingham	62	13
Huron	44	22	Oscoda	70	13
Clinton	51	20	Muskegon	54	13
Ionia	64	20	Tuscola	50	13
Grand Traverse	88	20	Kalamazoo	66	12
Marquette	77	20	Saginaw	63	12
Allegan	57	20	St. Joseph	44	12
Van Buren	46	19	Wexford	64	12
Ottawa	75	19	Alger	56	12
Cass	57	18	Eaton	51	12
Washtenaw	81	18	Montcalm	56	12
Benzie	63	18	Genesee	71	11
Baraga	60	18	Kalkaska	225	11
Sanilac	48	18	Roscommon	73	11
Livingston	85	18	Wayne	42	11
Clare	68	17	Midland	83	10
Charlevoix	75	17	Houghton	58	10
Isabella	66	17	Calhoun	51	10
Kent	62	17	Berrien	38	10
Cheboygan	61	16	Alcona	53	10
Menominee	65	16	Gogebic	33	9
Macomb	67	16	Bay	56	9
Ogemaw	76	16	Monroe	51	9
Manistee	83	16	Schoolcraft	66	9
Oakland	79	16	Luce	69	9
Otsego	99	16	Delta	56	9
Alpena	60	16	Iosco	38	9
Mecosta	57	15	Crawford	83	8
Mason	55	15	Lake	9	8
Presque Isle	62	15	Gratiot	42	8
Gladwin	51	15	Iron	57	8
Lapeer	65	15	Lenawee	33	7
Barry	51	15	Shiawassee	40	7
Newaygo	70	15	Ontonagon	−5	5
Keweenaw	55	14	Arenac	66	2
Branch	67	14	Chippewa	22	−4
Emmet	61	14			
Hillsdale	54	14	Michigan	56	13
Osceola	31	14	United States	58	13

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

and Baraga (31 percent). In terms of construction earnings as a percentage of total earnings, none of the counties ranked in the top ten, except St. Clair, shared in the rapid growth of the construction industry in this state between 1977 and 1978. In the case of Midland, Kalkaska, Alcona, Cheboygan, and Chippewa, this is because of construction booms that began before 1977, thus making the comparison between 1977 and 1978 less dramatic.

Michigan manufacturing grew relatively slowly between 1977 and 1978, both in comparison with the nation as a whole and with other sectors of this state's economy.

(Continued on page 6)

TABLE 2

Michigan Counties Most and Least Dependent on Manufacturing, Services, and Retail Trade in Their Economic Base: 1978

Manufacturing			Services			Retail trade			Retail trade and services		
		Growth			*Growth*			*Growth*			*Growth*
County	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]
Ten Most Dependent											
Genesee	60.43	8	Emmet	29.17	10	Clare	22.49	12	Emmet	45.97	13
Saginaw	55.65	14	Leelanau	23.00	12	Roscommon	22.36	7	Crawford	38.58	11
St. Joseph	55.08	13	Crawford	22.83	14	Cheboygan	18.79	6	Clare	37.77	13
Macomb	55.07	13	Oakland	20.59	17	Lake	17.94	12	Gd. Traverse	36.18	20
Midland	54.49	5	Gd. Traverse	20.59	19	Montmorency	17.78	26	Lake	35.71	0
Lenawee	49.35	8	Lake	17.77	– 10	Arenac	17.69	17	Leelanau	34.82	15
Manistee	49.26	16	Benzie	17.42	21	Missaukee	17.52	26	Cheboygan	33.26	12
Berrien	48.82	8	Mackinac	16.68	22	Gladwin	17.10	15	Gogebic	33.00[c]	n.a.
Wayne	48.04	12	Wexford	16.30	10	Emmet	16.80	17	Roscommon	32.44	9
Ottawa	48.01	16	Kalamazoo	15[illegible]4	17	Schoolcraft	16.42	9	Mackinac	31.85	16
Five Least Dependent											
Presque Isle	3.02	20	Kalkaska	4.98	24	Midland	5.38	15	Luce	10.00[c]	n.a.
Marquette	3.14	6	Ontonagon	4.54	30	Washtenaw	6.43	12	Ontonagon	11.84	n.a.
Mackinac	3.88	22	Montmorency	4.93	8	Genesee	6.74	10	Presque Isle	13.00[c]	n.a.
Chippewa	4.37	11	Presque Isle	5.00[c]	n.a.	Ontonagon	7.30	n.a.	St. Joseph	14.50	15
Luce	4.69	– 9	St. Joseph	6.42	13	Wayne	7.36	3	Menominee	14.69	15
Michigan	43.64	12	Michigan	13.72	14	Michigan	8.78	11	Michigan	22.50	13
U.S.	26.22	13	U.S.	16.30	14	U. S.	9.99	12	U.S.	26.29	13

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.
a. Earnings in this sector as a percentage of total labor and proprietors' earnings.
b. Percentage change in labor and proprietors' earnings in this sector.
c. Estimated by the author.
n.a.: not available.

TABLE 3

Michigan Counties Most and Least Dependent on Transportation, Communication, and Public Utilities; Wholesale Trade; Contract Construction; and Finance, Insurance, and Real Estate in Their Economic Base: 1978

Transportation, communication, and public utilities			Wholesale trade			Contract construction			Finance, insurance, and real estate		
		Growth			*Growth*			*Growth*			*Growth*
County	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]	*County*	*Dependency*[a]	*1977–1978*[b]
Five Most Dependent											
St. Clair	13.84	11	Dickinson	10.29	15	Midland	18.83	16	Livingston	7.43	25
Jackson	13.09	n.a.	Oakland	8.38	28	Kalkaska	18.76	7	Lake	6.73	9
Chippewa	11.84	8	Kent	8.14	19	Alcona	15.40	n.a.	Houghton	6.71	5
Monroe	11.12	29	Tuscola	7.87	17	Cheboygan	13.03	24	Oakland	6.07	22
Shiawassee	10.48	8	Menominee	7.66	45	Montmorency	11.78	11	Roscommon	5.90	19
Five Least Dependent											
Montmorency	1.30	27	Midland	.53	18	Ontonagon	1.60[c]	n.a.	Alcona	.20[c]	n.a.
Leelanau	1.34	13	Alcona	1.00[c]	n.a.	Luce	2.17	5	Kalkaska	.50[c]	n.a.
Antrim	1.49	14	Ontonagon	1.10[c]	n.a.	Arenac	2.71	7	Keweenaw	.90[c]	n.a.
Osceola	1.56	16	Alger	1.16	10	Lenawee	2.76	21	Baraga	1.30[c]	n.a.
Oscoda	1.66	19	Benzie	1.36	10	Schoolcraft	2.96	0	Hillsdale	1.90[c]	n.a.
Michigan	5.47	15	Michigan	5.01	14	Michigan	4.85	21	Michigan	3.81	14
U.S.	7.64	14	U.S.	6.55	13	U.S.	6.06	16	U.S.	5.78	15

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.
a. Earnings in this sector as a percentage of total labor and proprietors' earnings.
b. Percentage change in labor and proprietors' earnings in this sector.
c. Estimated by the author.
n.a.: not available.

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan....	43.0	39.9	40.3 (Mar.)
Average weekly hours, U.S.........	40.6	39.7	39.8 (Mar.)
Average hourly earnings, Michigan ($)	8.67	9.13	9.31 (Mar.)
Average hourly earnings, U.S. ($).....	6.56	6.99	7.05 (Mar.)
U.S. motor vehicle production (units).....	991,847	795,383	709,650 (Apr.)
Michigan electricity usage (mil. kwh.)....	6,616	5,762	6,069 (Jan.)
Industrial (mil. kwh.)...............	2,828	2,369	3,391 (Jan.)
Residential (mil. kwh.)..............	2,286	1,975	2,199 (Jan.)
Raw steel production:			
Michigan (000 net tons).............	1,044	810	828 (Mar.)
United States (000 net tons)..........	12,576	10,332	11,439 (Mar.)
Consumer price index (1967 = 100)			
Detroit area	211.6	240.4	242.9 (Mar.)
United States	209.1	236.4	239.8 (Mar.)
U.S. wholesale price index (1967 = 100)..	226.7	259.8	261.5 (Mar.)
Michigan farm prices received index (1967 = 100)	227	236	236 (Mar.)

Sources: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 3 Months: 1979 and 1980

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	17,185	38,428	+100	9,303	8,112	− 13	26,488	46,540	+ 76
Battle Creek	3,387	3,303	− 2	4,751	1,742	− 63	8,138	5,045	− 38
Bay City	2,552	826	− 68	1,742	5,489	+100	4,294	6,315	+ 47
Detroit	265,630	180,436	− 32	223,226	145,555	− 35	488,856	325,991	− 33
Flint	14,339	22,557	+ 57	17,894	6,632	− 63	32,233	29,189	− 9
Grand Rapids	47,941	63,052	+ 32	42,359	28,857	− 32	90,300	91,909	+ 2
Jackson	11,918	4,665	− 61	2,684	2,188	− 18	14,602	6,853	− 53
Kalamazoo–Portage	6,563	7,099	+ 8	10,473	8,266	− 21	17,036	15,365	− 10
Lansing–East Lansing	28,102	27,677	− 2	20,469	18,235	− 11	48,571	45,912	− 5
Muskegon–Norton Shores–Muskegon Heights	1,951	1,009	− 48	4,664	4,112	− 12	6,615	5,121	− 23
Saginaw	3,119	5,567	+ 74	5,823	5,794	− 1	9,022	11,361	+ 26
Michigan	450,836	380,088	− 16	397,767	284,146	− 29	276,947	168,782	− 39
United States	11,361,700	12,159,900	+ 7	16,111,000	13,003,000	− 43	27,472,700	25,162,900	− 8

Source: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

Note: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $276,947,000 and $168,782,000 respectively, or a decrease of 39 percent. U. S. figures for nonbuilding construction contracts were $13,163,000,000 and $7,454,000,000 or a decrease of 43 percent.

Year-to-Year Change in Selected Economic Indicators

Indicator	First quarter 1979	Percentage change from previous year 1979 April	May	June	July	August	September	October	November	December	1980 January	February	March
Civilian employment													
United States	3.8	2.7	2.5	2.2	2.8	2.2	2.7	2.1	2.0	2.2	1.8	1.6	1.1
Michigan	2.2	– .1	3.2	2.9	3.5	3.1	1.6	1.6	1.6	– .7	– 2.1	– 3.1	– 4.3
Detroit area[a]	1.3	– .9	3.1	2.7	3.0	2.3	1.1	.8	.7	– 1.3	– 3.7	– 4.6	– 5.6
Outstate[b]	3.0	.6	3.2	3.0	3.9	3.9	2.1	2.4	2.5	0	– .6	– 1.8	– 3.1
Wage and salary jobs[c]													
United States	4.6	3.6	3.7	3.5	3.5	3.2	3.1	2.9	2.7	2.4	2.5	2.3	1.8
Michigan	3.3	1.1	1.6	1.4	.9	– .3	– 1.0	– 1.1	– 1.7	– 2.3	– 2.9	– 3.4	– 3.7
Detroit area[a]	2.4	– .2	.9	.5	—	– 1.8	– 2.3	– 2.5	– 3.2	– 3.2	– 3.8	– 4.7	– 4.8
Outstate[b]	4.1	2.5	2.4	2.3	1.9	1.3	.4	.2	– .2	– 1.5	– 2.0	– 2.2	– 2.7
Average workweek[d]													
United States	1.4	– 3.7	– .7	– .7	– .7	– 1.0	– 1.2	– 1.0	– 1.7	– 1.0	– .7	– 1.9	– 2.0
Michigan	2.1	–12.9	– .9	– 2.6	– 4.2	– 4.7	– 6.5	– 8.1	–10.1	– 9.4	– 5.9	– 7.0	– 6.3
Average weekly earnings[e]													
United States	10.5	4.3	8.4	8.2	7.8	7.2	6.8	6.8	5.5	6.3	6.4	5.9	5.4
Michigan	12.4	– 6.0	8.8	5.7	4.4	2.5	– 3.9	– 1.9	– 6.3	– 4.7	– .3	– 1.6	.6
Motor vehicle assembly													
United States	9.7	–16.8	1.9	– 7.6	– 6.2	–28.8	–22.4	–20.1	–31.8	–33.5	–38.2	–33.9	–36.6
Michigan	14.5	–17.9	– 1.3	– 5.1	–13.3	–30.6	–27.8	–46.8	–29.8	–41.1	—	—	—
General Motors	20.4	– 5.2	10.5	– .4	–14.2	–14.9	–24.2	–52.4	–17.8	–27.6			
Ford	19.4	– 7.5	– 8.0	–12.0	18.2	–28.9	–17.8	–18.2	–28.3	–51.4			
Chrysler	– 8.0	–61.1	–24.2	–12.9	–41.6	–76.2	–53.6	–62.4	–64.8	–69.1			
Steel tonnage poured													
United States	10.4	5.8	3.8	3.1	3.8	– 2.1	– 8.1	–10.7	–14.2	–15.4	– 3.6	– 2.2	– 9.0
Michigan	20.6	22.4	13.7	7.8	– 1.0	.2	–13.8	–20.5	–18.2	–18.9	–16.3	– 7.8	–20.7
Commercial electricity consumption													
United States	5.3	6.7	6.7	1.0	– .2	.5	– .6	1.0	2.2	.8	– 2.1		
Michigan	6.1	6.1	8.7	3.0	3.5	1.0	– 5.2	1.0	3.5	2.3	– 2.7		
Industrial electricity consumption													
United States	8.8	8.9	5.7	3.5	3.8	2.4	– .1	.3	.1	– .7	– 1.0		
Michigan	10.9	– 2.1	3.5	1.7	.5	– 6.3	– 7.6	–10.1	–11.2	–13.2	–16.0		
Nonresidential construction contracts													
United States	28	23	1	22	1	10	– 6	14	– 6	18	10	12	3
Michigan	62	30	35	162	–17	2	—	– 5	28	– 8	28	–33	–24
Residential construction contracts													
United States	13	–13	4	– 8	3	– 2	4	– 3	–21	– 9	– 9	– 5	–34
Michigan	8	– 3	15	7	–10	24	– 6	–25	–24	–28	–27	–13	–37
Nonbuilding construction contracts													
United States	24	81	–32	19	– 9	–40	–11	–41	7	19	–20	–60	–36
Michigan	–50	55	– 3	–17	–67	–79	–82	28	–70	–71	–76	–49	28
Retail sales													
United States	13.5	10.3	9.1	7.3	8.1	12.3	9.4	11.3	11.3	8.1	12.3		
Michigan	17.0	11.2	9.5	7.2	7.8	6.4	3.0	5.4	6.4	4.6			
Detroit area[a]	18.7	14.0	9.5	9.2	11.1	5.6	1.7	1.6	4.9	3.3			
Detroit city	8.6	4.2	4.2	1.3	6.1	1.0	– 3.6	– 5.8	– 1.3	– 3.1			
Suburbs	21.0	16.2	10.8	10.9	12.2	6.6	2.8	3.1	6.2	3.3			
Outstate[b]	15.1	7.8	9.3	4.8	4.2	7.3	4.5	10.1	8.0	5.8			
Consumer price index													
United States	9.8	10.4	10.8	10.9	11.3	11.8	12.1	12.2	12.6	13.3	13.9	14.1	14.7
Detroit	11.9	12.1	11.2	10.7	12.8	13.5	13.2	13.1	14.5	15.3	15.7	15.1	14.8

SOURCE: Michigan Employment Security Commission, special release; Bureau of Labor Statistics, *The Employment Situation* (monthly); Motor Vehicle Manufacturers Association, special release; American Iron and Steel Institute, special release; Energy Information Administration, special release; F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases (monthly); and Bureau of the Census, *Monthly Retail Trade*.

a. Wayne, Oakland, Macomb, Livingston, Lapeer, and St. Clair counties.
2. Michigan minus Detroit area.
c. The number of wage and salary jobs, except agricultural, reported by employers.
d. Average hours worked by manufacturing production workers.
e. Average earnings among manufacturing production workers.

COUNTY INCOME UPDATE

(Continued from page 3)

Genesee County, where manufacturing generated 60 percent of total earnings, grew even more slowly than the state in this regard. Flint is the home of the Buick Division of General Motors Corporation, which also operates a light truck plant and other factories there. Midland County, home of Dow Chemical and Dow Corning, depends on manufacturing for over one-half of total earnings. It also experienced a lackluster performance in its manufacturing sector. In a few counties where it is relatively unimportant, manufacturing activity grew rapidly. The top five in such growth are Houghton (earnings in manufacturing up 49 percent between 1977 and 1978), Missaukee (up 43 percent), Huron (up 39 percent), Montmorency (up 38 percent), and Clare (up 34 percent). Factory earnings declined in Keweenaw, Arenac, Luce, Crawford, and Montcalm counties.

Chippewa County alone suffered a decline in total earnings between 1977 and 1978, a result of the Kincheloe Air Force Base closing. Earnings in Arenac and Ontonagon counties just inched ahead during 1978. Arenac has a depressed durable goods manufacturing sector; Ontonagon shared in the depressed national market for copper. Ontonagon's largest employer, Copper Range Mining Company, normally accounts for about two-thirds of total county earnings; during 1973 it generated less than one-half.

RESIDENCE ADJUSTMENT

The numbers in Tables 1 through 3 focus on economic activity taking place within counties, regardless of where the earnings recipients live. To calculate income received by persons, by county, the BEA has developed residence adjustments. For example, in 1978, residents of other counties earned $16,656,000 more in Ontonagon than Ontonagon residents earned elsewhere (see Table 4). That figure constitutes more than one-third of total earnings generated in the county. Others exporting a large percentage of earnings or, what amounts to the same thing, importing a large percentage of labor, are Ingham, Washtenaw, and Midland. Although Wayne ranks fifth in the proportion of earnings going to outside residents, it has by far the largest sheer dollar volume.

In the sheer dollar volume of earnings imported, or labor exported, Oakland is first and Macomb second, although in the percentage ranking they are 30 and 20, respectively. These figures merely illustrate what is common knowledge—the dependence of Oakland and Macomb residents on Wayne County jobs is not inconsequential. In a relative sense, the greatest such dependence in this state is Clinton's reliance on Ingham.

PROPERTY INCOME AND TRANSFER PAYMENTS

Total personal income is the sum of earnings received and income that entails no labor in return. The latter has two components: property income and transfer payments. Property income is received as dividends, interest, and

TABLE 4

Michigan Counties Most and Least Affected by Intercounty Commuting to Work: 1978

(Dollar figures in thousands)

County	*Labor and proprietors' earnings, by county in which received*	*Residence adjustment*	*Labor and proprietors' earnings, by county in which earned*	*Percentage*[a]
		Bottom 10		
Ontonagon	48,540	– 16,656	31,884	–34.3
Ingham	2,467,000	–665,178	1,801,822	–27.0
Washtenaw	2,344,501	–500,756	1,843,745	–21.4
Midland	568,973	–110,766	458,207	–19.5
Wayne	20,048,469	–2,836,079	17,212,390	–14.1
Wexford	107,853	– 13,141	94,712	–12.2
Grand Traverse	308,391	– 36,096	272,295	–11.7
Genesee	3,695,224	–417,051	3,278,173	–11.3
Kent	2,980,097	–323,357	2,656,740	–10.9
Saginaw	1,646,642	–146,226	1,500,416	– 8.9
		Top 10		
Clinton	108,881	218,204	327,085	66.7
Livingston	231,468	332,046	563,514	53.9
Shiawassee	207,178	203,772	410,950	49.6
Lapeer	205,288	181,475	386,763	46.9
Eaton	173,613	334,810	508,423	46.2
Gladwin	35,243	29,575	64,818	45.6
Monroe	440,480	369,696	810,176	45.6
Leelanau	32,085	24,919	57,004	43.7
Barry	119,334	85,915	205,249	41.9
Cass	158,521	102,849	261,370	59.3
Michigan	59,762,335	405,124	60,167,459	.7
United States	1,249,594,000	–411,000	1,249,183,000	0

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

a. Residence adjustment as percentage of labor and proprietors' earnings received (where positive) or generated (where negative).

rent by the owners of capital. The nine Michigan counties that outrank the others in percentage of personal income derived from property, or capital, ownership are all located in the northern Lower Peninsula (see Table 5). It is to these counties that many workers retire when they leave Genesee, Wayne, Macomb, and the other industrial centers. They insulate their summer cottages for year-round occupancy.

Transfer payments include Social Security and other pensions, welfare benefits, unemployment compensation, and other income not linked to current production or to capital ownership. During 1978, Social Security (federal, old age, survivors, and disability insurance) payments in Michigan accounted for 43 percent of total transfer payments; welfare, 14 percent; Medicare, 12 percent; military retirement and veterans' benefits, 6 percent; unemployment benefits, 6 percent; and other items, 19 percent.

Lake County is more heavily dependent on transfer payments than any other Michigan county (see Table 6). It ranks first in welfare benefits as a percentage of personal income (4 percent), and second in Social Security benefits as a percentage of personal income (18.1 percent). The rankings in Table 6 reflect Social Security benefits more than anything else, because they are the major component of transfer payments. Northern Michigan counties rank high in this table for the same reason that they are located at the top of the list in Table 5.

PERSONAL INCOME

The sum of earnings received, property income, and transfer payments is a broad yardstick of the income available to persons. Per capita personal income indicates how counties fare, on the average, in the acquisition of slices of the national "pie." Oakland County does exceptionally well in this regard because it has high paying industry and because well-paid workers with jobs elsewhere reside there. Macomb ranks second in Michigan for much the same reason. Michigan's other counties with heavy dependence on manufacturing also rank high in per capita income because the majority of those jobs are high paying.

Most northern Michigan counties in the Lower Peninsula have low per capita incomes because a high proportion of their residents are retirees living on accumulated wealth and pensions. Also, the retail and service indus-

TABLE 5
Michigan Counties Most and Least Dependent on Property Income in Total Personal Income: 1978

County	*Per capita*	*Percentage*
	Bottom 10	
Luce	$ 565	8.8
Genesee	825	9.2
Wayne	857	9.3
Macomb	893	9.5
Marquette	644	9.5
Lapeer	693	9.6
Shiawassee	749	10.0
Ingham	862	10.1
Clinton	748	10.2
Muskegon	706	10.2
	Top 20	
Roscommon	$1,355	26.0
Leelanau	1,535	22.5
Montmorency	1,215	22.1
Alcona	1,131	22.0
Oscoda	878	20.2
Benzie	1,217	19.6
Emmet	1,391	19.5
Antrim	1,166	18.6
Lake	893	18.6
Crawford	1,006	18.4
Huron	1,273	18.0
Ogemaw	828	17.4
Cheboygan	990	16.9
Houghton	878	16.6
Keweenaw	907	16.5
Sanilac	1,022	16.0
Otsego	1,021	15.4
Missaukee	750	15.4
Grand Traverse	1,230	15.4
Charlevoix	993	15.4
Michigan	958	11.3
United States	1,084	13.8

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

TABLE 6
Michigan Counties Most and Least Dependent on Transfer Payments in Total Personal Income: 1978

County	*Per capita*	*Percentage*
	Bottom 10	
Oakland	$ 806	7.4
Macomb	731	7.8
Livingston	594	7.9
Midland	725	8.5
Clinton	642	8.7
Washtenaw	835	9.1
Ottawa	703	9.2
Eaton	725	9.3
Monroe	763	9.9
Genesee	921	10.2
	Top 20	
Lake	$1,654	34.5
Roscommon	1,666	32.0
Keweenaw	1,700	30.9
Alcona	1,583	30.8
Montmorency	1,629	29.7
Oscoda	1,289	29.6
Gogebic	1,764	29.3
Ontonagon	1,461	29.3
Chippewa	1,359	27.2
Ogemaw	1,266	26.7
Iron	1,460	25.7
Schoolcraft	1,385	25.5
Clare	1,327	25.5
Houghton	1,342	25.3
Osceola	1,187	23.2
Alger	1,105	23.1
Cheboygan	1,335	22.7
Gladwin	1,223	22.4
Missaukee	1,076	22.2
Arenac	1,321	21.9
Michigan	981	11.6
United States	1,028	13.1

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

tries that cater to them and to summer visitors offer low paying jobs, for the most part. The area provides summer employment for high school and college students as well as for older workers who stay there. A survey of the economic condition of these counties would likely find that the residents of Roscommon, Leelanau, Montmorency, Alcona, Oscoda, Benzie, Emmet, and Antrim counties consider themselves to be well off financially. In contrast, the survey would find a high proportion of the residents of Lake, Ontonagon, Alger, Chippewa, and Osceola counties locked into poverty.

TABLE 7
Ranking of Michigan Counties According to Per Capita Personal Income: 1978

County	*Per capita personal income*	*Percentage change 1977 to 1978*	*County*	*Per capita personal income*	*Percentage change 1977 to 1978*
Oakland	10,877	11	Luce	6,368	6
Macomb	9,385	12	Sanilac	6,366	13
Wayne	9,238	12	Wexford	6,281	9
Washtenaw	9,160	12	Antrim	6,251	15
Genesee	9,016	9	Benzie	6,238	14
Midland	8,542	9	Manistee	6,194	11
Ingham	8,516	10	Ionia	6,190	14
Saginaw	8,407	11	Mason	6,112	16
Kalamazoo	8,259	10	Arenac	6,025	10
Calhoun	8,217	10	Gogebic	6,020	13
Kent	7,980	13	Mackinac	5,968	6
Gd. Traverse	7,965	15	Menominee	5,931	13
Eaton	7,776	8	Cheboygan	5,863	14
Monroe	7,721	9	Delta	5,857	8
Lenawee	7,667	9	Baraga	5,785	11
Jackson	7,656	12	Oceana	5,708	17
Ottawa	7,609	14	Presque Isle	5,700	14
Bay	7,581	9	Iron	5,686	8
Berrien	7,570	13	Newaygo	5,656	12
Livingston	7,536	11	Iosco	5,571	7
Cass	7,489	14	Isabella	5,565	13
Shiawassee	7,469	11	Montmorency	5,472	11
Dickinson	7,341	10	Crawford	5,465	10
Clinton	7,341	13	Schoolcraft	5,455	8
Branch	7,336	10	Keweenaw	5,446	18
St. Clair	7,287	12	Gladwin	5,442	11
St. Joseph	7,276	10	Houghton	5,306	10
Lapeer	7,216	11	Roscommon	5,210	8
Tuscola	7,214	12	Clare	5,195	8
Emmet	7,144	13	Alcona	5,156	8
Huron	7,054	17	Osceola	5,121	12
Gratiot	6,965	10	Chippewa	4,999	13
Muskegon	6,894	12	Ontonagon	4,992	6
Leelanau	6,825	14	Kalkaska	4,921	6
Van Buren	6,761	15	Missaukee	4,879	15
Allegan	6,748	17	Lake	4,812	12
Marquette	6,747	16	Alger	4,779	8
Hillsdale	6,717	10	Ogemaw	4,754	3
Otsego	6,595	14	Mecosta	4,551	13
Alpena	6,485	14	Oscoda	4,383	7
Charlevoix	6,465	15			
Montcalm	6,412	14	Michigan	8,487	12
Barry	6,395	13	United States	7,840	11

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

BRIEF

U.S. Housing Markets, published by Advance Mortgage Corporation of Detroit, had these comments regarding Detroit in its 25 April 1980 subscriber's special release.

> The only true gentrification trend is in two fragmentary neighborhoods—Woodbridge, west of Wayne State University, cut up by expressways; and Corktown, west of downtown, five blocks left over after urban renewal for light industry.
>
> There has been strong revival in the city's prime residential enclaves, 30–75 years old, which never deteriorated or ceased being middle class, but suffered steep declines in value in the 50s and 60s. Comeback began in 1975 in Indian Village and the Palmer Woods area, and in 1977 in Rosedale Park, Boston-Edison and the Lafayette Park-Elmwood urban renewal area. First quarter 1980 sales in these neighborhoods have been twice as strong as in the suburbs.
>
> Both trends together affect fewer than 4,000 houses, less than one percent of Detroit's nonapartment units.
>
> Indian Village, which has some mansions of early auto magnates, has gone from an average $30,000 value in 1971 to the high 50s–60s in 1975, to $70–$80,000 today, and some as high as $150,000.
>
> In the four sectors of the Palmer Woods area, values increased 20 percent in 1978, 50 percent in 1979, and doubled or tripled since the early 1970s. In order of descending size, in Palmer Woods (which includes some mansions) typical value went from $50,000 to $150,000; Sherwood Forest from $40,000 to $90,000; Golf Course from $30,000 to $75–$80,000; Greenacres from $20–$30,000 to $40–$60,000.
>
> North Rosedale Park has appreciated 60 percent in 2½ years to $70–$80,000 and some to $90,000. South Rosedale Park is up 50 percent to $45–$60,000, and less affluent adjoining neighborhoods are up one-third, to $40–$45,000. Most buyers come from smaller homes in the city.
>
> Co-op townhouses in Lafayette Park (the only middle-class neighborhood close to downtown) have appreciated 60–75 percent and more since opening of the nearby Renaissance Center in 1977.

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AIRLINE DEREGULATION

by STEVEN W. LEH, *Graduate Assistant, Department of Marketing and Transportation Administration, Michigan State University.*

In fall 1978, the 95th Congress passed and President Jimmy Carter signed into law the Airline Deregulation Act. It will dismantle the regulatory umbrella that has traditionally shielded the industry from the competitive influences of the marketplace, and it calls for the phasing out of the Civil Aeronautics Board (CAB) by 1985.[1]

The law was passed "to amend the Federal Aviation Act of 1958, to encourage, develop, and attain an air transportation system which relies on competitive market forces to determine the quality, variety, and price of air services."[2] This new position is a reversal of government policy from 1938 to 1975. But it continues to stress the assignment and maintenance of safety as the highest priority in air commerce and that the CAB shall prevent any deterioration in established safety procedures.[3]

To implement its new competitive philosophy, the CAB shall consider encouraging, developing, and maintaining an air transportation system relying on actual and potential competition to provide efficiency, innovation, and low prices, as well as to determine the variety, quality, and price of air transportation services. In this way, the act formalized former CAB chairman Alfred Kahn's practice of implementing de facto deregulation on a case by case basis. Concurrently, the CAB intends to maintain a comprehensive and convenient system of continuous scheduled airline service for small communities and for isolated areas, with direct federal assistance where appropriate.[4]

THE ERA OF COMPETITION

Unlike the era of protective regulation prevailing until 1975, the current period is one of excessive competition. Since deregulation, in no domestic route case, no matter how persuasive or vehement the objections of affected parties, has the CAB awarded operating authority to fewer than all "qualified" applicants.[5] This approach may violate the intent of Congress, which did not mean for the CAB completely to deregulate entry until 1982. Instead, Congress implicitly designated 1978–1982 as a transition period during which the CAB would gradually expose the highly regulated common carrier system to the rigors of the marketplace. This would allow communities to adjust to the evolving traffic patterns of the air carrier system as it responds to the needs and demands of the market. Thus, although de jure deregulation of entry in air transportation is not scheduled to arrive until 1982, de facto deregulation is already here.[6]

The liberalized entry policy means that any applicant demonstrating "fitness, willingness and ability" to serve a market will be issued a certificate under the automatic entry clause, the dormant authority clause, the experimental certificate provision, or other entry provisions.[7] The implications of this policy can only be fully understood in combination with the other changes wrought by the act, and carrier service alternatives and procedures have been altered in a number of ways.

Carriers now have greater flexibility to move their equipment around, concentrating assets where they can find the greatest return, and thus rationalizing their route structure. Nervous that constituents would blame their elected representatives for losses in air service, Congress specifically

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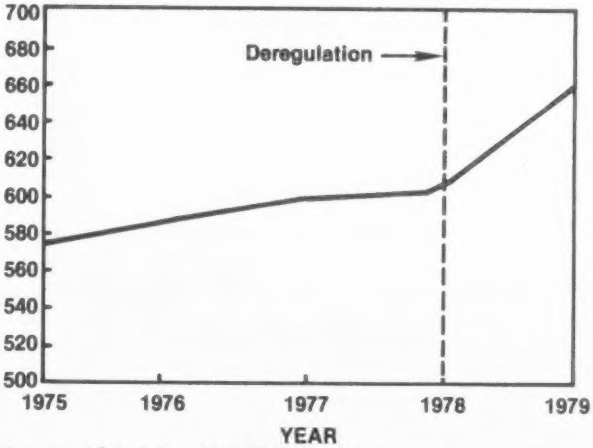
guaranteed "essential air service" to small communities. However, this portion of the law is couched in vague, if not vacuous, terminology.[8] In essence, Congress recognized the route restructuring that would occur (and subsequently has; see Figures 1 and 2). Trunk carriers, such as United Airlines, that link the nation's large hubs, strive to develop route structures best suited to their longer range aircraft. Thus, their average stage length, which was rising slowly prior to 1978, spurted after deregulation. Local carriers, such as Republic Airlines, that are regional and serve mostly medium and small hubs also have increased their average stage length since deregulation because they, too, find very short hauls more costly per passenger mile.

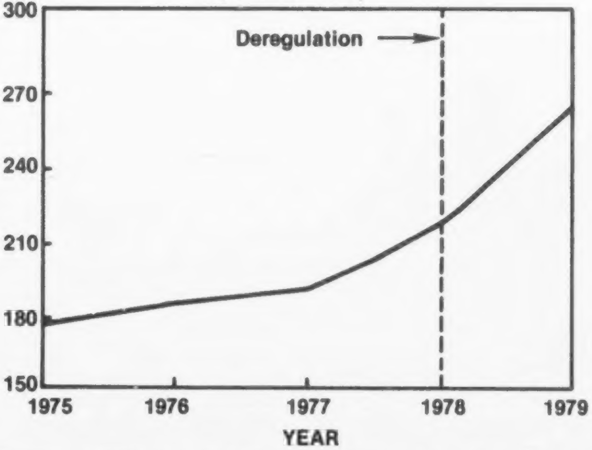
Congress specifically mandated the CAB to define an essential level of service for each of 555 communities. The CAB must ensure that each of those communities is served at that level for ten years, either by finding a carrier willing to provide the service or by subsidizing the last remaining carrier.[9]

FIGURE 1
Average Stage Length for Trunk Airline Carriers: October 1975–1979
(Statute miles)



SOURCE: Adapted from Mark H. Schlansky's presentation to the Transportation Research Board Committee on Aviation Demand Forecasting, 59th Annual Meeting, Washington, D.C., 22 January 1980.

FIGURE 2
Average Stage Length for Local Carriers: October 1975–1979
(Statute miles)



SOURCE: Adapted from Mark H. Schlansky's presentation to the Transportation Research Board Committee on Aviation Demand Forecasting, 59th Annual Meeting, Washington, D.C., 22 January 1980.

The maximum level the CAB set in its general guidelines issued in September 1979 was 160 round-trip seats a day, five days a week, or the service level the community had in 1977, whichever is less. The CAB believes that this level of service, assuming a 50 percent load factor, will make profits for a commuter airline serving a community. If the demand is any higher, the CAB maintains, the free market will ensure that it is met.[10] Nevertheless, a carrier may pull out of a market after giving a 90-day notice. If such action would reduce the level of air service below that deemed essential by the CAB, the carrier may be constrained from doing so for an additional 30 days or until another carrier has begun to provide "essential air service" to the affected community.[11]

It was presumably the intent of Congress, then, that no community be adversely affected due to loss of air service. However, the CAB appears to have adopted departure statistics as indicative of the level of service being provided on an aggregate basis. In testimony, Chairman Marvin S. Cohen stated: "We have heard complaints about service cutbacks, and there is no denying that the carriers have been using their new freedom to exit cities as well as their new freedom to enter them. Certainly, the nation as a whole experienced an aggregate increase in service, when measured solely in terms of departure statistics."[12] That may hold true for major hubs, but it is not the case for the 260 smaller cities that suffered a decrease in aircraft departures between 1 February 1978 and 1 February 1979.[13] Furthermore, in many communities the new entrant (frequently, a small commuter carrier) is willing to replace service lost by the departure of an incumbent (frequently, a large scheduled air carrier). But the community may be left with a smaller carrier that, although it may provide as many departures, does not provide the same aircraft and seat mile capacity, and it may be geared to off line points and offer less dependable service. Thus, the loss of service must be measured from two perspectives: quantitative (which the CAB has emphasized) and qualitative (which the CAB has "virtually ignored").[14]

Another key provision of major significance concerns fares. Carriers have the power to raise fares by as much as 5 percent on routes along which they control less than 70 percent of the traffic, and lower them by as much as 50 percent so long as the proposed fare would not be predatory as determined by the CAB.[15] Recently, the board modified this provision by approving a new three-tier fare system for the industry. It would allow airlines to raise fares an unlimited amount for route distances of 200 miles or less; 50 percent above base for distances up to 400 miles; and 30 percent above base for distances greater than 400 miles.[16] This pricing scheme could seriously affect out-state communities in Michigan and elsewhere.

In addition, as previously stated, the act will eliminate the CAB's powers over routes and fares by 1983 and will abolish the agency itself by 1985.[17]

THE REGULATORY PROSPECT

When the CAB ceases existence on 1 January 1985, responsibility for international service, domestic subsidy, and related matters will be transferred to the Department of Transportation (DOT). The act does not specify what happens to consumer protection functions. The Federal Trade Commission is the most likely candidate, according to the General Accounting Office, but the FTC is prohibited by law from controlling airlines; legislation will be needed to transfer those functions.[18] If the FTC does assume responsibility, its workload is such that carriers probably will not be scrutinized as closely as in the past. Antitrust authority will be transferred to the Department of Justice on 1 January 1983.[19]

DOT will assume international route authority and responsibility for maintaining essential air service at least until 1988. Current plans call for most of the CAB's essential service and subsidy division personnel to transfer en masse to DOT, indicating little difference in policy implementation after the transfer. However, one major difference is likely to be increased reliance on alternative means of transportation instead of subsidizing short-hop air transportation.[20]

William B. Johnston, Assistant Secretary of Transportation for Policy and International Affairs, underscored this point when he recently stated: "We don't want to be in the business of determining who will serve what route when or at what cost."[21] Moreover, Secretary Johnston sees "no substantive reasons why sunset of the CAB could not occur shortly after the essential services program is scheduled to be completed in 1982."[22] Reiterating the de facto deregulation philosophy contrary to congressional intent as conveyed in the act, Johnston states: "The department . . . wants to exercise as little influence as possible in the industry."[23]

THE MARKET OUTLOOK

Generally, carriers' responses to deregulation have been similar. Both domestic trunk and local service carriers have extended the length of haul and cut services to small communities. Furthermore, the economy has taken a sharp downturn, other regulations have been imposed on carriers, and external variables have significantly affected them. The changes in carrier operations are unsurprising if not predictable. The general industry trend toward longer stage lengths indicates that carriers are eliminating route segments that are not paying their way. As a result, some small and medium communities have suffered a decrease in service.

In addition, all carriers will be forced to modernize their fleets by 1985. At that time, the Clean Air Act, which specifies emission standards for aircraft, and the Federal Aviation Administration's noise-reducing requirements both come into effect. Clearly, the airlines are now forced to select routes on the basis of profitability to ensure that they have the capital required for such an undertaking.[24] Intensifying the need for profitable route selection are increased fuel costs. Since the 1974 OPEC oil embargo, fuel has quadrupled as an operating expense. In 1979, fuel comprised approximately 20.1 percent of an airplane's operating cost, compared to about 7 percent in 1973.[25]

Thus, airlines have been forced to raise fares to cover rising costs. The increases have been tempered by competition resulting from deregulation, hence increased costs cannot be fully passed on to travelers. This, in turn, exacerbates the difficulties of financing fleet renovations. Further compounding the difficulty is the loss of disposable income in the consumer sector. As the long awaited recession has finally hit, especially in Michigan, the level of disposable consumer income has significantly decreased, with discretionary income even further reduced. Given that air travel is highly income elastic and pleasure travel is highly price elastic as well, traffic has fallen off. The decline is reflected by the performance of the ten trunk carriers, who together lost $200 million in the fourth quarter of 1979; nine trunks reported total losses of $229.5 million in the first quarter of 1980. This performance compares to $8.6 million in profits during the first quarter of 1979.[26]

In short, the operating environment is characterized by greater flexibility in terms of both price setting and route selection, increasing operating costs, and reduced service demand due to a combination of increased fares and a declining level of disposable income. Thus, unlike past market downturns, deregulation means the carriers will have to ride out the storm without the benefit of a paternalistic CAB. Their ability to do so will partly depend on how well they have restructured themselves during the past two or three years. This restructuring, exhibited to some extent by the changes in stage length, is indicative of the economics underlying air transportation. While lift requires major power and energy inputs, forward movement requires very little. As a consequence, air transportation finds its main advantage in the long haul.[27] The optimum stage length allows the airplane to remain aloft for as long as possible, given its fuel capacity. Economies also result from minimizing the use of labor on the ground, meaning as few landings as possible.

EFFECTS ON MICHIGAN

Given the regulatory and economic environment in which air carriers are now operating, both individually and collectively, they have had to adjust strategically to fit their product offering to the changed market. The tactical methods chosen have had significant effects, particularly on small and medium communities. This is especially true in Michigan, as Tables 1 and 2 indicate.

As costs have increased and as carriers have been forced to absorb part of the expense due to the deregulated, competitive environment, marginally profitable routes have been dropped. This economic route rationalization reflects the ease of market entry and exit enjoyed by the airlines. It also reflects the fact that, unlike the previous era, when carriers were essentially granted a franchise on routes and could therefore afford to cross-subsidize them, profitability for all routes is required. Indeed, faced with escalating labor, aircraft replacement, and fuel costs, the industry was compelled to react as it has.

With or without deregulation, these costs would have risen due to current economic conditions. As noted earlier, decreasing disposable income and higher fares necessitated by increasing operating costs will mean that load factors

(Continued on page 6)

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	37.2	40.3	39.8 (Apr.)
Average weekly hours, U.S.	38.9	39.8	39.4 (Apr.)
Average hourly earnings, Michigan ($)	8.56	9.32	9.23 (Apr.)
Average hourly earnings, U.S. ($)	6.54	7.06	7.07 (Apr.)
U.S. motor vehicle production (units)	1,283,679	709,650	638,815 (Apr.)
Michigan electricity usage (mil. kwh.)	6,093	6,069	5,769 (Feb.)
Industrial (mil. kwh.)	2,805	2,391	2,534 (Feb.)
Residential (mil. kwh.)	1,945	2,199	1,868 (Feb.)
Raw steel production:			
Michigan (000 net tons)	1,025	803	585 (May)
United States (000 net tons)	12,789	10,658	9,226 (May)
Consumer price index (1967 = 100)			
Detroit area	213.2	242.9	248.2 (Apr.)
United States	211.5	239.8	242.5 (Apr.)
U.S. wholesale price index (1967 = 100)	232.0	262.3	263.7 (May)
Michigan farm prices received index (1967 = 100)	227	236	226 (Apr.)

Sources: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 4 Months: 1979 and 1980

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	23,442	46,390	+ 98	19,736	10,054	− 49	43,178	56,444	+ 31
Battle Creek	6,589	7,313	+ 11	11,922	2,737	− 77	18,511	10,050	− 46
Bay City	2,784	1,015	− 64	3,347	11,083	+231	6,131	12,098	+ 97
Detroit	350,630	265,890	− 24	350,594	176,686	− 50	701,224	442,576	− 37
Flint	20,202	27,743	+ 37	26,500	8,418	− 68	46,702	36,161	− 23
Grand Rapids	66,165	73,057	+ 10	65,702	35,556	− 46	131,867	108,613	− 18
Jackson	12,807	4,775	− 63	5,313	2,859	− 46	18,120	7,634	− 58
Kalamazoo–Portage	12,204	11,931	− 2	16,251	10,511	− 35	28,455	22,442	− 21
Lansing–East Lansing	33,686	29,587	− 12	35,048	25,779	− 26	68,734	55,366	− 19
Muskegon–Norton Shores–Muskegon Heights	2,443	2,585	+ 6	8,219	5,696	− 31	10,662	8,281	− 22
Saginaw	8,656	20,768	+140	15,225	6,767	− 56	23,881	27,535	+ 15
Michigan	603,770	527,989	− 13	679,514	372,381	− 45	1,283,284	900,370	− 30
United States	15,652,500	16,222,600	+ 7	23,296,100	17,376,200	− 25	38,948,600	33,598,800	− 14

Source: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

Note: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $379,742,000 and $216,029,000 respectively, or a decrease of 43 percent. U. S. figures for nonbuilding construction contracts were $18,472,800,000 and $10,089,400,000 or a decrease of 45 percent.

Quarterly Motor Vehicle Employment and Assembly

Item	1977		1978				1979				1980
	3	4	1	2	3	4	1	2	3	4	1
EMPLOYMENT[a]											
Checker											
Michigan	1,102	1,166	1,117	1,118	1,084	1,140	1,207	1,194	1,182	1,099	982
Chrysler											
Michigan	82,701	84,047	78,744	82,799	75,187	81,664	75,316	70,238	58,182	55,456	47,273
United States	135,039	137,286	131,066	136,158	125,989	135,997	125,899	118,532	99,754	98,228	86,341
Ford[b]											
Michigan	118,775	124,098	124,187	127,148	126,300	135,377	132,298	129,526	117,630	111,790	104,321
United States	222,119	233,911	234,635	239,517	233,314	253,536	245,253	240,054	211,763	196,038	181,595
General Motors											
Michigan	252,000	280,000	264,000	278,000	267,000	289,000	295,000	296,000	291,000	288,000	267,000
United States	564,000	624,000	588,000	619,000	594,000	643,000	644,000	650,000	582,000	602,000	561,000
ASSEMBLY											
Dearborn	39,828	37,107	40,230	70,007	39,072	83,017	96,572	92,774	85,970	68,819	65,971
Detroit	126,505	126,739	130,969	140,723	54,857[c]	89,563[c]	130,475[c]	113,866[c]	56,399[c]	78,055	57,000[d]
Detroit (truck)	8,667	7,577	7,587	11,443	11,142	30,753[c]	33,693[c]	28,503[c]	12,861[c]	16,534	18,000[d]
Flint	53,905	100,181	93,380	104,042	76,157	109,192	115,405	110,135	56,914	90,222	69,179
Flint (truck)	109,197	103,976	107,414	116,436	103,549	104,839	114,846	95,075	60,985	75,541	70,123
Hamtramck	94,246	72,429	56,098	86,545	56,808	54,230	44,901	62,806	15,345	30,134	c
Kalamazoo	1,314	1,095	1,361	1,036	809	1,019	1,134	1,268	1,203	1,161	770
Lansing	45,921	99,322	93,080	110,381	62,327	116,726	130,644	130,363	72,684	96,143	104,913
Pontiac	29,710	83,219	75,104	87,334	61,666	82,652	91,712	85,977	46,578	61,082	50,974
Pontiac (bus & truck)	38,253	40,474	55,041	67,569	61,741	72,398	77,144	73,922	51,628	42,135	33,850
Warren (bus & truck)	78,855	70,738	76,322	94,415	72,181	84,504	76,365	48,873	5,027	19,043	13,000[d]
Wayne	59,823	67,939	76,242	76,599	63,214	55,607	50,4[illegible]7	46,765	34,081	28,800	27,840
Wayne (truck)	32,905	50,706	53,462	56,436	48,390	52,388	56,052	51,994	21,305	34,256	25,355
Wixom	43,875	43,677	42,915	47,639	36,508	46,902	51,132	36,527	20,013	32,604	8,724
Ypsilanti	69,327	62,270	60,220	73,733	57,178	38,891	38,797	75,420	73,508	70,507	84,598
Total Michigan											
Passenger car	564,544	693,978	669,599	798,039	508,596	654,346	751,250	755,901	462,695	557,527	470,000[d]
Bus and truck	266,877	273,471	299,826	341,141	297,003	368,325	358,100	298,367	151,806	187,509	160,000[d]
Total United States											
Passenger car	1,931,390	2,306,400	2,267,474	2,656,507	1,850,701	2,398,411	2,411,307	2,482,907	1,655,546	1,884,756	1,783,732
Bus and truck	849,649	850,989	865,427	1,019,266	851,996	982,232	1,024,655	916,996	529,092	564,118	499,525
Total Canada											
Passenger car	196,129	282,256	289,695	345,842	229,593	297,157	307,823	281,806	171,427	227,966	225,969
Bus and truck	113,923	171,998	171,127	185,031	120,199	180,355	200,162	190,698	167,988	135,532	146,015

SOURCE: Ward's *Automotive Reports;* Motor Vehicle Manufacturers Association of the United States, Inc., PI report; and companies.

a. Average monthly wage and salary employment of companies with assembly plants in Michigan; includes nonautomotive.

b. Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

c. Chrysler's Jefferson Avenue plant has been converted to truck production. The plant had no production during July and August and began assembling trucks during the latter part of September. The Hamtramck plant closed 4 January 1980.

d. Estimated.

Airline Deregulation

(Continued from page 3)

will fall. As this happens, carrier revenues also decline, and profits plummet. In turn, carriers' cash reserves are drained. This leaves the airlines in the tenuous position of having to comply with the EPA and FAA regulations, which require complete fleet renovations by 1985, with depressed financial resources. To avoid having to go to the financial markets in serious trouble, as well as to improve current earnings, the route restructuring has taken place. It is erroneous to think that the restructuring, and the sub-

TABLE 1
Airport Statistics for Selected Michigan Cities, 1977–1979

	1977	*Percentage change 1976–1977*	*1978*	*Percentage change 1977–1978*	*1979*	*Percentage change 1978–1979*
Flint Bishop Airport						
Number of passengers						
In	132,101	+13.5	141,931	+7.4	127,674	−10.0
Out	129,710	+13.7	138,213	+6.6	121,188	−12.3
Total	261,811	+13.6	280,144	+7.0	248,862	−11.2
Pounds of airmail						
In	129,804	−69.3	140,284	+8.1	96,606	−31.1
Out	425,713	−37.6	459,433	+7.9	373,179	−18.8
Total	555,517	−49.7	599,717	+8.0	469,785	−21.7
Tons of cargo						
In	1,338.8	+7.8	1,262.5	−5.7	880.9	−30.2
Out	155.1	−42.7	222.7	+43.6	122.1	−45.2
Total	1,493.9	−1.2	1,485.2	−0.6	1,003.0	−32.5
Grand Rapids–Kent County International Airport						
Number of passengers						
In	364,127	+18.0	420,607	+15.5	458,304	+9.0
Out	365,164	+17.9	420,709	+15.2	453,958	+7.9
Total	729,291	+18.0	841,316	+15.4	912,262	+8.4
Pounds of airmail						
In	630,029	−57.3	810,186	+28.6	501,281	−38.1
Out	1,920,378	−5.1	1,951,901	+1.6	1,296,214	−33.6
Total	2,550,407	−27.1	2,762,087	+8.3	1,797,586	−34.9
Tons of cargo						
In	2,008.2	+12.4	1,961.0	−2.4	1,544.0	−21.3
Out	1,517.9	+4.2	1,631.6	+7.7	1,178.8	−27.8
Total	3,523.1	+8.7	3,592.6	+2.0	2,722.8	−24.2
Lansing Capital City Airport						
Number of passengers						
In	205,163	+11.8	225,958	+10.1	224,978	−0.4
Out	201,681	+13.2	221,301	+9.7	220,046	−0.6
Total	406,844	+12.5	447,259	+9.9	445,024	−0.5
Pounds of airmail						
In	271,338	−82.8	584,446	+115.4	395,266	−32.4
Out	709,628	−67.6	970,149	+36.7	897,220	−7.5
Total	980,966	−74.0	1,554,595	+58.5	1,292,486	−16.9
Tons of cargo						
In	1,208.0	−63.8	1,164.0	−3.6	846.7	−27.3
Out	457.0	−64.2	445.9	−2.4	463.9	+4.0
Total	1,665.0	−63.9	1,609.9	−3.3	1,310.6	−18.6
Saginaw Tri-City Airport						
Number of passengers						
In	205,072	+9.3	225,416	+9.9	217,020	−3.7
Out	205,690	+8.5	226,745	+10.2	219,629	−3.1
Total	410,762	+8.9	452,161	+10.1	436,649	−3.4
Pounds of airmail						
In	49,088	−94.2	67,316	+37.1	59,293	−11.9
Out	524,261	−27.7	388,259	−25.9	239,694	−38.3
Total	573,349	−63.5	455,575	−20.5	298,987	−34.4
Tons of cargo						
In	998.6	+7.8	945.1	−5.4	668.7	−29.3
Out	468.1	+19.6	506.8	+8.3	275.6	−45.6
Total	1,166.7	+11.3	1,451.9	−1.0	944.3	−35.0

SOURCE: Bureau of Transportation Planning, Michigan Department of Transportation, Aviation Planning Monthly Air Carrier Statistics, special release.

sequent loss of service some communities have experienced, resulted from deregulation. Rather, the changes reflect long-run industry strategies for survival in the dynamic, volatile market. Deregulation has only increased the speed at which they have occurred.

The route changes to date are indicative of air carriers' strategic efforts to fit their resources and competencies to the market evolution that has taken place. As the market continues to evolve, carriers will be forced to continue adapting or risk failure. Since no one carrier has the resources to serve the entire market, selective growth is the key. This means resources will be deployed where potential returns are greatest. The current route structures, which adversely affect Michigan, attest to this. Moreover, the trend among trunk carriers to eliminate or reduce services at small hub cities such as Lansing and Saginaw will continue unless altered economic conditions allow carriers profitably to initiate or expand operations at these and similar points. At present, for small and medium cities in Michigan and elsewhere, reduced trunk carrier service is the net result.

CONCLUSION

Small communities generally have not had large jet service and are not apt to receive any as a result of deregulation. Medium communities are likely to see trunk carriers continue to pull out of marginally profitable routes. Service can be expected to be replaced by smaller commuter airlines. However, since the CAB has implemented de facto deregulation more quickly than Congress intended, the commuter airlines are unable, at present, to handle all the additional demands placed upon them.[28]

In short, despite congressional rhetoric to the contrary, small and medium communities have suffered a loss of air service, if not in quantity, certainly in quality. Furthermore, unless a community measures up in terms of a carrier's balance sheet and return on investment requirements, the diminution in service will continue.

In addition to communications and energy, a state's growth, indeed society's, is inexorably tied to its transportation system. Without any one of these fundamental ingredients, development will not occur. Moreover, if any one of these vital components is deficient, either qualitatively or quantitatively, investment in plant will not be forthcoming, and existing industry may relocate.[29] Clearly, Michigan cannot afford such a circumstance. It is beyond the scope of this article to advance detailed strategic alternatives from either a community or state perspective. However, suffice it to say that unless decisive action is taken to counteract the reduction in air service and the state's eco-

TABLE 2
Departures of United, Republic, and Freedom Airlines Affecting Flint, Grand Rapids, Lansing, and Saginaw during 1980

City and time of day	*Airline*	*Number of seats*	*Action*
	Westbound (Chicago)		
Flint:			
7:17 a.m.	United	134	Discontinued
11:24 a.m.	United	103[a]	Rescheduled to 9:50 a.m.
6:00 p.m.	United	103	Rescheduled to 9:50 p.m.
Grand Rapids:			
7:30 a.m.	United	103	Rescheduled to 8:10 a.m.
12:25 p.m.	United	103	Discontinued
2:51 p.m.	United	103	Discontinued
5:58 p.m.	United	103	Discontinued
9:05 p.m.	United	103	Rescheduled to 9:00 p.m.
12:00 p.m.	Republic	130[a]	Added
3:15 p.m.	Republic	130[b]	Added
Lansing:			
7:52 a.m.	United	103	Discontinued
11:20 a.m.	United	103	Rescheduled to 10:45 a.m.
6:07 p.m.	United	103	Discontinued
9:45 p.m.	United	103	Discontinued
7:22 a.m.	Republic	130[b]	Added
11:20 a.m.	Republic	130[c]	Added
7:25 p.m.	Republic	130[b]	Added
Saginaw:			
7:45 a.m.	United	103	Discontinued
12:09 p.m.	United	103	Rescheduled to 10:50 a.m.
2:39 p.m.	United	103	Discontinued
9:20 p.m.	United	103	Rescheduled to 10:25 p.m.
5:55 p.m.	United	103	Discontinued
7:00 a.m.	Republic	130[a]	Added
2:25 p.m.	Republic	130[c]	Added
6:25 p.m.	Republic	130[a]	Added
	Eastbound (Cleveland)		
Flint:			
7:05 a.m.	United	103	Discontinued
2:05 p.m.	United	103	Discontinued
9:10 p.m.	United	103[b]	Discontinued
7:18 a.m.	Freedom	50	Added
2:28 p.m.	Freedom	50	Added
Grand Rapids:			
7:10 a.m.	United	134	Discontinued
10:45 a.m.	United	103	Discontinued
1:50 p.m.	United	103	Discontinued
5:29 p.m.	United	103	Discontinued
9:39 p.m.	United	103	Discontinued
6:50 a.m.	Freedom	50	Added
11:35 a.m.	Freedom	50	Added
2:20 p.m.	Freedom	50	Added
6:30 p.m.	Freedom	50	Added
Lansing:			
7:15 a.m.	United	103	Discontinued
10:46 a.m.	United	103	Discontinued
5:29 p.m.	United	103	Discontinued
6:36 a.m.	Freedom	50	Added
6:29 a.m.	Freedom	50	Added
Saginaw:			
7:22 a.m.	United	103	Discontinued
10:57 a.m.	United	103	Discontinued
5:20 p.m.	United	103	Discontinued
10:30 p.m.	United	103	Discontinued
6:50 a.m.	Freedom	50	Added
11:30 a.m.	Freedom	50	Added
6:20 p.m.	Freedom	50	Added

SOURCE: Bureau of Transportation Planning, Michigan Department of Transportation, special release.
a. Shared with Lansing.
b. Shared with Saginaw.
c. Shared with Grand Rapids.

nomic distress, these factors will continue to exacerbate one another.

NOTE: The author wishes to express his indebtedness to Professor John L. Hazard for his time, assistance, and guidance whenever needed. He also is grateful to William Margaritis, of state senator Robert Geake's office, for his assistance in acquiring selected data from the Michigan Department of Transportation.

CITATIONS

1. Public Law 95-504 (24 October 1978). The act, 92 Stat. 1705, does not constitute a separate body of legislation, but instead amends several existing laws, of which the Federal Aviation Act is the most significant. See Paul Stephen Dempsey, "The Rise and Fall of the Civil Aeronautics Board—Opening Wide the Floodgates of Entry," *Transportation Law Journal* 11, no. 1 (1979):93.
2. Conference Report, Airline Deregulation Act of 1978, Rep. No. 95-1779, 95th Cong., 2d sess., 53 (12 October 1978).
3. 49 U.S.C. § 1302 (a)(1) and (a)(2)(1979).
4. 49 U.S.C. § 1302 (a)(8) and (a)(9)(1979).
5. Dempsey, "Civil Aeronautics Board," p. 175.
6. Ibid., pp. 174–75.
7. 49 U.S.C. § 1371 (d)(7)(A)(1979). Under this provision, each certified passenger carrier may apply during the first month of 1979, 1980, and 1981 for nonstop route authority between any pair of points that has not been protected by filing a notice. Under 49 U.S.C. § 1371 (d)(5)(A)(O) (1979), a certificate authorizing transportation between two points for which the carrier has not provided a minimum level of five round trips a week for thirteen weeks during the preceding twenty-six-week period is considered dormant and must be awarded within sixty days to the first carrier submitting an application in compliance with CAB regulations. An exception exists for seasonal markets under 49 U.S.C. § 1371 (d)(5)(B)(E)(1979). Under 49 U.S.C. § 1371 (d)(8)(1979), the CAB may grant an application for only a temporary period whenever it determines that a test period is desirable. Also see 49 U.S.C. § 1371 (d)(6)(1979), 49 U.S.C. § 1386 (b)(1979), and 49 U.S.C. § 1551 (a)(1)(A)(1979).
8. See 49 U.S.C. §§ 1389, 1371, 1386, 1376, 1371 (1979). Congress is empowered and required under Article 1, Section 8, of the Constitution to regulate commerce between and among states. Having neither the time nor the expertise to do so, Congress has written all statutory criteria governing all modes of transportation in somewhat vague terms. "Essential service," in this act, and such other imprecise terminology as "fitness, willingness and ability," "public convenience and necessity," and "public interest" are included in statutory directions for rail carriers (49 U.S.C. §§ 10901, 10903, 10909 [1979]), motor and water carriers (49 U.S.C. §§ 10922, 10923 [1979]), brokers of motor carrier transportation (49 U.S.C. § 10924 [1979]), and air transport legislation. See Dempsey, "Civil Aeronautics Board," p. 183.
9. 49 U.S.C. § 1389 (a)(2)(A), (2)(C), and (4)(A) (1979); and 49 U.S.C. § 1386 (4)(B), (5), and (6) (1979).
10. See "The Airlines Hit a Downdraft," *Business Week*, 5 November 1979, p. 110.
11. 49 U.S.C. § 1386 (6)(1979).
12. Testimony of Marvin S. Cohen, Chairman, Civil Aeronautics Board, before the Subcommittee on Aviation, Senate Committee on Commerce, Science and Transportation, 25 April 1979, p. 34.
13. Civil Aeronautics Board, *Report on Airline Services, Status on February 1, 1979* (Washington, D.C.: 1979), pp. 43–50.
14. Dempsey, "Civil Aeronautics Board," n. 428, p. 178.
15. 49 U.S.C. § 1371 (a)(1)(A) and (a)(1)(B)(1979).
16. Memorandum from Senator Howard H. Cannon, Chairman, Senate Committee on Commerce, Science and Transportation, 14 May 1980. Base is considered the standard industry fare level for the same or essentially similar class of service. 49 U.S.C. § 1371 (a)(1)(B)(1979).
17. 49 U.S.C. §§ 1378, 1379, and 1321 (4)(1979).
18. 49 U.S.C. §§ 1378, 1379, and 1384(1979). See also Michael Feazel, "Industry Prepares for Demise of CAB in 1985," *Aviation Week and Space Technology*, 3 March 1980, p. 176.
19. 49 U.S.C. § 1382 (3)(1979). See also Feazel, "Demise of CAB," p. 177.
20. 49 U.S.C. § 1382 (b)(1)(B) and (b)(1)(A)(1979); and Feazel, "Demise of CAB," p. 177.
21. "Transportation Department Backs Early CAB Sunset," *Aviation Week and Space Technology*, 7 April 1980, p. 32.
22. Feazel, "Demise of CAB," p. 32.
23. Ibid.
24. Individual carriers will be forced to make varying degrees of capital investment due to fleet composition, but Eastern Air Lines and TWA are the most seriously threatened. Both have a large proportion of fuel-inefficient jets, and both are highly leveraged. See "Airlines Hit a Downdraft," pp. 104–12.
25. Linda Kloster, ed., *Air Transport 1979* (Washington, D.C.: Air Transport Association of America, 1979), p. 3. This is an industry average, and there may be substantial individual differences, depending on a carrier's fuel contracts. Moreover, if a carrier does not have a long-term supply guaranteed, it will have to purchase much of its crude on the spot market, where prices are significantly (10–25 percent) higher.
26. Michael Feazel, "U.S. Trunks Again Report Record Losses," *Aviation Week and Space Technology*, 5 May 1980, pp. 28–29.
27. John L. Hazard, *Transportation* (Cambridge, Md.: Cornell Maritime Press, 1977), p. 233.
28. See the following articles in *Aviation Week and Space Technology:* "Traffic of Non-trunks Extends Growth," 21 April 1980, p. 30; "Prolonged Deregulation Impact Seen," 3 March 1980, p. 184; "Commuter Airline Growth Predicted," 28 April 1980, p. 25; and "February Trunk Traffic Sags Despite Some Individual Gains," 10 March 1980, p. 27.
29. Dempsey, "Civil Aeronautics Board," n. 428, p. 179.

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MICHIGAN'S LODGING INDUSTRY

by JOHN H. LEARY, *Director, Management Advisory Services, Laventhol & Horwath.*

In recent years, the Michigan lodging market underwent a renaissance. Sales, occupancy, and average rate of occupancy increased every year from 1975 through 1978, and development activity was strong. The industry was expected to continue expanding at an annual rate of 2 to 4 percent. Recently, however, occupancy has declined, and the future is being regarded cautiously.

Several factors have combined to favor the state's lodging industry, much of which, of course, is in Detroit. Crime is down dramatically in Detroit, making people less hesitant to venture into center city areas. In addition, Detroit has been cited as having relatively unpolluted air, considering its size. Furthermore, the residents of the major metropolitan areas in the state have begun to feel more favorable about their cities. As a result, the images of these areas are improving, which leads to greater lodging demand.

Perhaps the most favorable indications are two recent coups. First, Detroit hosted the 1980 Republican National Convention, and from all reports, handled it professionally and successfully. The city and state received valuable positive publicity. This is expected to aid future convention sales efforts. Second, the National Football League has pledged the 1982 Superbowl to the Pontiac Stadium (Silverdome). This event is likely to rival or exceed the Republican Convention in media coverage and revenue generating potential. The combination of these events should greatly improve the state's visibility in the national marketplace. If press reports continue to be favorable, a greatly increased share of the regional and national convention market could result. Perhaps more important, these reports help to improve the area's image in the minds of visitors and residents alike.

However, while Michigan's stake in the national convention market has been growing, other changes have taken place. The national economy is in a recession precipitated by the increasingly high cost of energy, general inflation, and artificially high interest rates. This has had a particularly strong impact on the automobile industry and thus on Michigan. The growing market share of Japanese automakers has exacerbated the situation.

The effect of these events on the Michigan lodging industry is shown in Table 1. These data contain a wealth of information and must be analyzed carefully. They reveal that, between first quarter 1979 and first quarter 1980, room sales throughout the state increased by 7.5 percent. However, occupancy is down 7.3 percent. The increase in room sales has been accomplished by a 15.8 percent increase in room sales per occupied room, which is commonly called average rate. Most properties in the state have raised rates substantially to offset rapidly rising energy and labor costs. The latter continue to be legislated higher through mandated

Laventhol & Horwath is an accounting firm specializing in the hospitality, leisure time, and real estate industries. It publishes a monthly statistical analysis, *Michigan Trend of Business in the Lodging Industry.*

Midyear Review, by David I. Verway / page 3

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TABLE 1
Lodging Trend Report — First 3 Months, 1980, Compared with First 3 Months, 1979

	Sales, percentage change			*Occupancy*		*Double occupancy*		*Room sales per occupied room*	
	Total	*Rooms*	*Food and beverage*	*March 1980*	*Percentage change*	*March 1980*	*Percentage change*	*March 1980*	*Percentage change*
Total Michigan	4.4	7.5	0.1	63.6	−7.3	33.5	4.9	$34.30	15.8
Affiliation									
Chain	6.9	10.4	0.8	69.3	−4.8	33.7	−0.2	$33.91	15.9
Independent	0.2	1.2	−0.6	52.9	−12.9	33.2	13.8	35.23	15.9
Location									
Central city	−3.5	−4.1	−3.0	43.3	−16.0	26.6	7.9	$41.81	15.9
Suburban	7.2	11.8	0.5	68.0	−6.6	27.4	8.9	35.24	18.6
Highway	6.0	5.6	6.7	61.5	−8.0	23.0	7.3	29.64	15.1
Airport	a	a	a	a	a	a	a	a	a
Resort	6.1	9.9	3.0	71.6	−1.4	56.9	−3.3	30.74	10.5
Occupancy									
Less than 54.07%	−6.3	−7.6	−4.7	37.7	−23.3	34.1	12.5	$36.36	18.0
54.07 to 68.31%	3.8	4.6	2.9	62.4	−3.1	37.2	10.0	31.86	11.5
68.31 to 77.00%	7.3	13.0	−0.3	69.0	−5.1	24.8	−0.7	37.55	18.4
More than 77.00%	8.1	12.0	1.4	80.1	−3.7	40.2	0.2	32.42	15.5
Room rate									
Less than $21.60	−2.5	−2.3	−5.0	63.3	−16.5	37.9	22.8	$18.10	11.1
$21.60 to $28.17	4.5	5.6	3.1	61.1	−2.6	44.2	−1.7	26.49	8.6
$28.17 to $34.34	5.3	9.3	−2.2	61.9	−6.5	42.9	6.2	32.25	15.4
More than $34.34	4.0	7.2	0.6	66.6	−8.5	22.5	0.6	41.81	19.1
Number of rooms									
Fewer than 150	0.3	1.5	−1.2	64.2	−9.1	38.6	1.6	$27.26	10.7
150 to 299	7.0	11.2	1.5	69.8	−3.1	35.2	5.3	35.71	16.4
300 to 600	6.8	9.6	2.4	67.1	−10.3	25.3	1.4	41.95	21.5
More than 600	a	a	a	a	a	a	a	a	a
Type									
Hotel	1.9	6.4	−3.0	60.0	−7.3	34.3	4.3	$38.23	15.5
Motor hotel	7.8	8.7	6.2	67.3	−7.4	32.1	6.3	30.68	16.4
Zone									
West	7.6	10.1	4.5	68.7	−1.5	49.0	−1.8	$27.43	10.1
East	9.4	12.5	5.3	72.2	−2.9	36.1	2.4	32.45	16.0
Southeast	2.6	6.0	−2.1	60.4	−10.1	24.5	6.8	37.23	18.2

a. Insufficient response.

increases in the minimum wage, in Social Security costs and maximum levels, and in funding of pension plans.

The occupancy decline was caused by the recession which affected the automobile industry last summer and is now widespread. The declines have been most severe in center city areas and in properites in the lowest occupancy and average rate quartiles The data indicate that no segment of the lodging industry has generated increased occupancy this year.

Average rate increases have more than offset the decreases in occupancy. The largest increase was 21.5 percent, experienced by properties with 300 to 600 rooms. Many segments achieved increases in the 15 percent to 18 percent range. Interestingly, the lowest growth in average rate occurred in the western part of the state, in the second rate quartile, and in resort locations. These three categories also had the lowest decreases in occupancy, 1.5 percent, 2.6 percent, and 1.4 percent respectively. The data suggest that some rate sensitivity exists in lodging demand in the state.

Food and beverage sales at lodging properties throughout the state are virtually unchanged overall from last year. Considering the effects of inflation, this means that real sales are down. Increases have been highest in the highway and motor hotel segments, 6.7 percent and 6.2 percent respectively. The largest decreases occurred in the lowest occupancy and rate quartiles, 4.7 percent and 5 percent respectively.

Analyzing the data in absolute terms shows that Michigan's overall occupancy stood at 63.6 percent through March 1980. Chain properties achieved a level of 69.3 percent, which is more than a 16 point advantage over the 52.9 percent experienced by independent facilities. Properties in the eastern part of the state ran an overall occupancy of 72.2 percent, the highest of any category. Center city hotels had a relatively low 43.3 percent.

Overall room sales per occupied room stood at $34.30 through March 1980. The highest rates were in center city hotels and in hotels with 300 to 600 rooms, $41.81 and $41.95 respectively. The lowest rates were in small properties and in the western part of the state, $27.26 and $27.43 respectively.

Most owners and operators see these occupancy declines as temporary. They expect a rebound to begin in 1981. Many note that the negative effects of the much

(Continued on page 8)

MIDYEAR REVIEW

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

The Charlevoix area economy experienced a 21 percent decline in the number of wage and salary jobs between June 1979 and June 1980, a result of losing 750 jobs in automotive-related factories. Cass County lost 1,250 such jobs, causing wage and salary employment to decline by 18 percent. Other small labor markets similarly affected are Montmorency, Branch, Alcona-Iosco, Lenawee, Hillsdale, the Thumb area, Emmet, Missaukee-Wexford, Clare, Antrim, and Berrien. Slumping steel demand has depressed the Rogers City area, where U.S. Steel operates the world's largest limestone quarry. Limestone is a flux in the extraction of iron from ore. In Marquette County, the Cleveland Cliffs Iron Company, which makes pellets from iron ore, slashed its payrolls by 2,000 at the end of June. The effects will appear in the July employment data. Ontonagon County is racked by a strike which began in August at the White Pine copper mine.

TABLE 1
Michigan Labor Markets Listed According to Percentage Change in Number of Nonfarm Wage and Salary Jobs: June 1979–June 1980

County or counties	*Percentage change*	*County or counties*	*Percentage change*
Mackinac	+28	Washtenaw	− 4
Osceola	+11	Bay	− 5
Ontonagon	+10	Crawford	− 5
Lake	+ 8	Oscoda	− 5
Luce	+ 7	Otsego	− 5
Roscommon	+ 7	Alpena	− 6
Cheboygan	+ 5	Arenac	− 6
Houghton-Keweenaw	+ 5	Berrien	− 6
Chippewa	+ 4	Gratiot	− 6
Delta	+ 4	Ogemaw	− 6
Alger	+ 3	Lapeer-Livingston-Macomb-Oakland-St. Clair-Wayne	− 7
Baraga	+ 3	Presque Isle	− 7
Gogebic	+ 3	Antrim	− 8
Midland-Gladwin	+ 3	Clare	− 8
Iron	+ 1	Jackson	− 8
Isabella	+ 1	Missaukee-Wexford	− 8
St. Joseph	0	Huron	− 9
Clinton-Eaton-Ingham-Ionia	− 1	Sanilac	− 9
Dickinson	− 1	Tuscola	−10
Kalamazoo-Van Buren	− 1	Saginaw	−11
Manistee	− 1	Lenawee	−12
Marquette	− 1	Genesee-Shiawassee	−13
Schoolcraft	− 1	Alcona-Iosco	−14
Grand Traverse-Kalkaska-Leelanau	− 2	Hillsdale	−14
Mason	− 2	Branch	−15
Mecosta	− 2	Montmorency	−16
Montcalm	− 2	Cass	−18
Newaygo	− 2	Charlevoix	−21
Allegan	− 3		
Kent-Ottawa	− 3	Upper Peninsula	+ 1
Muskegon-Oceana	− 3	Michigan	− 7
Benzie	− 4	United States	0
Calhoun-Barry	− 4		
Menominee	− 4		

SOURCE: Bureau of Labor Statistics, special release; and Michigan Employment Security Commission, special release.

Among large metropolitan areas, Flint has suffered relatively the largest job decline (13 percent), followed by Saginaw (11 percent), Jackson (8 percent), and Detroit (7 percent). None of this state's metropolitan areas has been spared the effects of sagging demand for North American cars and trucks. (See Table 1.)

Tourism was higher this summer than last. This is particularly true in the Upper Peninsula, in the Mackinac, Houghton-Keweenaw, and Alger areas. In the Northern lower peninsula, Roscommon, Cheboygan, Osceola, and Lake have fared well.

One area, Midland, stands out because of its steady growth through the downturn, despite a heavy dependence on manufacturing. It is the home of Dow Chemical as well as Dow Corning.

Statewide, employment in durable goods factories fell by nearly one-quarter; in construction by one-sixth; and in transportation, communication, and public utilities by about one-sixth. Retail employment slipped slightly, while gains were posted by services; finance, insurance, and real estate; and government.

Short-Term Outlook

The statewide July employment tally (wage and salary workers plus self-employed) indicates a slight improvement in that the year-to-year difference (−7.3 percent) was narrower than it was in June (−7.6 percent) and May (−8.8 percent). Considering that the 1981 models will start rolling from assembly lines in August, and that production will accelerate through at least October, Michigan's employment statistics should make less dismal reading during the next few months than currently. Beyond that, much depends on demand for large cars and small trucks. April 1980 will mark the second anniversary of the drop in demand for such vehicles, meaning that there is a growing pent-up requirement to satisfy the transportation needs for large households. The leveling of gasoline and diesel oil prices is another plus for this market segment, although the odds for their remaining at present levels for many months are virtually zero. Auguring against a resurgence in big car demand are the financial condition of most household budgets and the prospect of a tight situation in financial markets generally. The most likely scenario is slow recovery in big cars and vans until spring 1981, and then a more rapid increase in the rate of sales gain.

This summer, Chrysler Corporation began producing its K-car, a front-wheel drive vehicle that replaced the Aspen and Volare models. Trenton Engine in New Jersey makes the powerplants for the K-cars. The Jefferson Avenue plant in Detroit and the Newark, Delaware, plant assemble these mid-size cars. Chrysler will continue to assemble light trucks at its plant in Warren, Michigan, and at a somewhat faster clip than a short while ago, inasmuch as the Missouri truck plant near St. Louis has been closed and Jefferson Avenue converted. Chrysler continues to manufacture V-8 engines at its Mound Road plant in Detroit. Even so, in October 1980 there will likely be fewer

(Continued on page 7)

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	42.2	39.7	39.4 (May)
Average weekly hours, U.S.	40.1	39.4	39.4 (May)
Average hourly earnings, Michigan ($)	8.75	9.24	9.22 (May)
Average hourly earnings, U.S. ($)	6.63	7.08	7.12 (May)
U.S. motor vehicle production (units)	1,124,377	638,815	634,968 (June)
Michigan electricity usage (mil. kwh.)	5,779	5,917	5,698 (Apr.)
Industrial (mil. kwh.)	2,729	2,550	2,453 (Apr.)
Residential (mil. kwh.)	1,741	1,950	1,806 (Apr.)
Raw steel production:			
Michigan (000 net tons)	981	585	365 (June)
United States (000 net tons)	12,230	9,226	7,501 (June)
Consumer price index (1967 = 100)			
Detroit area	215.4	248.4	256.7 (June)
United States	216.6	244.9	247.6 (June)
U.S. wholesale price index (1967 = 100)	233.5	263.7	265.2 (June)
Michigan farm prices received index (1967 = 100)	230	227	232 (June)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 6 Months: 1979 and 1980

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	48,482	64,708	+ 35	39,217	24,429	− 38	87,699	89,137	+ 2
Battle Creek	13,017	9,695	− 26	21,683	5,420	− 75	34,700	15,115	− 56
Bay City	4,353	14,187	+326	7,297	12,765	+ 75	11,650	26,952	+231
Detroit	526,779	481,198	− 9	606,328	263,394	− 57	1,133,107	744,592	− 34
Flint	34,579	44,982	+ 30	48,604	15,633	− 68	83,183	60,615	− 27
Grand Rapids	106,605	109,640	+ 3	100,010	71,996	− 28	206,615	181,636	− 12
Jackson	14,177	7,629	− 46	9,177	5,030	− 45	23,354	12,659	− 46
Kalamazoo–Portage	18,568	21,313	+ 15	29,891	19,423	− 35	48,459	40,736	− 16
Lansing–East Lansing	51,251	78,917	+ 54	66,141	39,869	− 40	117,392	118,786	+ 1
Muskegon–Norton Shores–Muskegon Heights	6,237	6,068	− 3	14,858	8,769	− 41	21,095	14,837	− 30
Saginaw	19,920	23,141	+ 16	26,128	10,021	− 62	46,048	33,162	− 28
Michigan	969,261	922,795	− 5	1,237,547	621,272	− 50	2,206,808	1,544,067	− 30
United States	24,727,000	24,775,700	—	38,648,800	26,726,900	− 31	25,436,500	14,957,200	− 41

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

[a] Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $544,900,000 and $329,351,000 respectively, or a decrease of 41 percent. U. S. figures for nonbuilding construction contracts were $25,436,500,000 and $14,957,200,000 or a decrease of 41 percent.

Year-to-Year Change in Selected Economic Indicators

	Percentage change from previous year												
		1979						1980					
Indicator	*Second quarter 1979*	*July*	*August*	*September*	*October*	*November*	*December*	*January*	*February*	*March*	*April*	*May*	*June*
Civilian employment													
United States	+ 2.4	+ 2.8	+ 2.2	+ 2.7	+ 2.1	+ 2.0	+ 2.2	+ 1.8	+ 1.6	+ 1.1	+ .9	+ .5	− .1
Michigan	+ 1.8	+ 3.2	+ 2.9	+ 1.5	+ 1.4	+ 1.4	− .9	− 2.1	− 3.1	− 4.3	− 4.4	− 7.3	− 6.5
Detroit area[a]	− .4	+ 1.5	+ 1.1	− .1	− .4	− .5	− 2.1	− 3.7	− 4.6	− 5.6	− 6.0	− 8.8	− 7.6
Outstate[b]	+ 3.1	+ 4.7	+ 4.6	+ 2.9	+ 3.0	+ 3.1	+ .3	− .6	− 1.8	− 3.0	− 2.9	− 5.9	− 5.5
Wage and salary jobs[c]													
United States	+ 3.6	+ 3.5	+ 3.2	+ 3.1	+ 2.9	+ 2.6	+ 2.4	+ 2.5	+ 2.4	+ 1.6	+ 1.7	+ 1.0	+ .2
Michigan	+ 1.3	+ .3	− 1.2	− 1.4	− 1.3	− 2.2	− 2.3	− 2.9	− 3.5	− 3.8	− 4.9	− 7.0	− 6.7
Detroit area[a]	− .1	− .4	− 2.4	− 2.5	− 2.9	− 3.8	− 3.2	− 3.8	− 4.6	− 4.9	− 6.3	− 8.0	− 7.0
Outstate[b]	+ 2.7	+ 1.0	− .1	− .4	+ .2	− .7	− 1.4	− 2.0	− 2.3	− 2.7	− 3.5	− 6.1	− 6.3
Average workweek[d]													
United States	− 1.7	− .7	− 1.0	− 1.2	− 1.0	− 1.7	− 1.0	− .7	− 1.9	− 2.0	+ 1.3	− 2.0	− 2.5
Michigan	− 5.5	− 4.2	− 4.7	− 6.5	− 7.6	−10.1	− 8.5	− 5.8	− 7.0	− 6.7	+ 6.4	− 6.6	− 5.5
Average weekly earnings[e]													
United States	+ 7.0	+ 7.8	+ 7.2	+ 6.8	+ 6.8	+ 5.5	+ 6.3	+ 6.4	+ 5.9	+ 5.4	+ 9.8	+ 5.4	+ 5.0
Michigan	+ 2.8	+ 4.4	+ 2.5	− 3.9	− 1.1	− 6.3	− 3.4	− .5	− 1.5	− .1	+14.6	− .1	+ 1.6
Motor vehicle assembly													
United States	− 7.5	− 6.2	−28.8	−22.4	−20.1	−31.8	−33.5	−38.2	−33.9	−36.6	−28.5	−50.2	−43.5
Michigan	− 8.1	−13.3	−30.6	−27.8	−46.8	−29.8	−41.1	−40.7	−38.7	−49.7	−40.6	−62.1	−50.9
General Motors	+ 1.6	−14.2	−14.9	−24.2	−52.4	−17.8	−27.6	−24.0	−23.7	−45.0	−36.0	−60.9	−49.3
Ford	− 9.2	+18.2	−28.9	−17.8	−18.2	−28.3	−51.4	−52.7	−49.1	−47.2	−46.7	−54.1	−34.7
Chrysler	−32.7	−41.6	−76.2	−53.6	−62.4	−64.8	−69.1	−77.5	−80.5	−74.0	−54.9	−77.1	−73.7
Steel tonnage poured													
United States	+ 4.2	+ 3.8	− 2.1	− 8.1	−10.7	−14.2	−15.4	− 3.6	− 2.2	− 9.0	−12.6	−27.9	−38.7
Michigan	+14.6	− 1.0	+ .2	−13.8	−20.5	−18.2	−18.9	−16.3	− 7.8	−20.7	−18.7	−42.9	−62.7
Commercial electricity consumption													
United States	+ 4.8	− .2	+ .5	− .6	+ 1.0	+ 2.2	+ .8	− 2.1	− .7				
Michigan	+ 5.9	+ 3.5	+ 1.0	− 5.2	+ 1.0	+ 3.5	+ 2.3	− 2.7	+ .8	+ .2	+ 2.9		
Industrial electricity consumption													
United States	+ 6.0	+ 3.8	+ 2.4	− .1	+ .3	+ .1	− .7	− 1.0	+ 1.1				
Michigan	+ 1.0	+ .5	− 6.3	− 7.6	−10.1	−11.2	−13.2	−16.0	− 9.7	−13.9	−10.1		
Nonresidential construction contracts													
United States	+15	+ 1	+10	− 6	+14	− 6	+18	+10	+12	+ 3	− 5	− 7	+ 6
Michigan	+76	−17	+ 2	–	− 5	+28	− 8	+28	−33	−24	+ 1	+15	+ 8
Residential construction contracts													
United States	− 6	+ 3	− 2	+ 4	− 3	−21	− 9	− 9	− 5	−34	−39	−44	−30
Michigan	+ 6	−10	+24	− 6	−25	−24	−28	−27	−13	−37	−69	−55	−55
Nonbuilding construction contracts													
United States	+23	− 9	−40	−11	−41	− 7	−19	−20	−60	−36	−50	−33	−24
Michigan	+12	−67	−79	−82	+28	−70	−71	−76	−49	+28	−51	−41	−24
Retail sales													
United States	+ 9.5	+ 8.2	+12.6	+ 9.5	+11.2	+10.5	+ 8.3	+12.1	+14.6	+ 3.5	+ 4.9	+ 3.8	
Michigan	+ 9.4	+ 8.1	+ 5.9	+ 4.2	+ 5.2	+ 4.7	+ 5.0	+ 8.9	+ 7.3	− 3.6	− 1.8	− 3.0	
Detroit area[a]	+10.7	+10.9	+ 4.9	+ 3.0	+ 1.5	+ 4.9	+ 5.1	+ 9.6	+ 7.4	− 2.0	+ .1	− 3.7	
Detroit city	+ 1.4	+ 9.3	− 3.0	− 3.2	− 3.5	+ .7	+ 6.4	+20.0	+14.1	+ 4.6	− .7	0	
Suburbs	+12.7	+11.3	+ 6.6	+ 4.3	+ 2.5	+ 5.8	+ 4.8	+ 7.5	+ 6.0	− 3.4	+ .2	− 4.5	
Outstate[b]	+ 8.0	+ 5.0	+ 7.0	+ 5.7	+ 9.7	+ 4.5	+ 4.9	+ 8.0	+ 7.2	− 5.5	− 4.0	− 2.1	
Consumer price index													
United States	+10.7	+11.3	+11.8	+12.1	+12.2	+12.6	+13.3	+13.9	+14.1	+14.7	+14.7	+14.4	+14.3
Detroit[a]	+11.3	+12.8	+13.5	+13.2	+13.1	+14.5	+15.3	+15.7	+15.1	+14.8	+16.4	+16.1	+19.2

SOURCE: Michigan Employment Security Commission, special release; Bureau of Labor Statistics, *The Employment Situation* (monthly); Motor Vehicle Manufacturers Association, special release; American Iron and Steel Institute, special release; Energy Information Administration, special release; F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases (monthly); and Bureau of the Census, *Monthly Retail Trade*.

a. Wayne, Oakland, Macomb, Livingston, Lapeer, and St. Clair counties.
b. Michigan minus Detroit area.
c. The number of wage and salary jobs, except agricultural, reported by employers.
d. Average hours worked by manufacturing production workers.
e. Average earnings among manufacturing production workers.

Quarterly Personal Income in Michigan

	Millions of dollars, annual rates, seasonally adjusted							Percentage change 79(4) to 80(1)	
	1978		1979				1980		
	3	4	1	2	3	4	1	Michigan	United States
TOTAL LABOR AND PROPRIETORS INCOME BY PLACE OF WORK									
By type									
Wage and salary disbursements	53,146	54,858	57,577	56,858	56,548	56,519	57,435	+ 1.6	+ 2.6
Other labor income	6,801	7,038	7,498	7,463	7,423	7,418	7,611	+ 2.6	+ 3.7
Proprietors income	3,517	3,651	3,689	3,828	3,824	3,924	3,769	− 4.0	− 3.1
Farm	519	555	581	745	639	684	562	−17.8	−14.4
Nonfarm	2,998	3,096	3,108	3,082	3,186	3,240	3,206	− 1.0	+ .2
By industry									
Farm	672	714	748	918	813	858	744	−13.3	−10.0
Nonfarm	62,792	64,832	68,015	67,231	66,983	67,002	68,071	+ 1.6	+ 2.5
Private	54,565	56,461	59,574	58,610	58,195	58,087	58,996	+ 1.6	+ 2.7
Ag. Serv., For., Fish., and other	137	141	147	155	161	164	162	− 1.2	− 1.1
Mining	323	338	337	349	359	394	407	+ 3.3	+ 5.0
Construction	3,111	3,199	3,334	3,290	3,348	3,370	3,207	− 4.8	+ 1.2
Manufacturing	27,521	28,803	30,833	29,785	28,562	27,657	28,074	+ 1.5	+ 2.6
Nondurable goods	4,063	4,313	4,429	4,434	4,435	4,418	4,422	+ .1	+ 1.7
Durable goods	23,548	24,491	26,404	25,351	24,127	23,239	23,652	+ 1.8	+ 3.2
Transportation and public utilities	3,464	3,529	3,787	3,775	3,989	4,134	4,149	+ .4	+ 1.5
Wholesale trade	3,215	3,279	3,467	3,613	3,659	3,794	3,885	+ 2.4	+ 3.2
Retail trade	5,564	5,736	5,896	5,912	6,028	6,136	6,271	+ 2.2	+ 2.8
Finance, insurance, and real estate	2,432	2,501	2,615	2,598	2,693	2,787	2,866	+ 2.8	+ 2.8
Services	8,799	8,937	9,159	9,132	9,395	9,651	9,976	+ 3.4	+ 3.4
Government and government enterprises	8,227	8,372	8,441	8,621	8,788	8,915	9,075	+ 1.8	+ 1.6
Federal, civilian	995	1,040	1,072	1,082	1,093	1,126	1,137	+ 1.0	+ 1.2
Federal, military	195	201	199	198	197	207	200	− 3.4	+ .2
State and local	7,037	7,130	7,170	7,341	7,498	7,582	7,737	+ 2.0	+ 1.9
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE									
Total labor and proprietors income by place of work	63,464	65,546	68,763	68,148	67,796	67,861	68,815	+ 1.4	+ 2.2
Less: Personal contributions for social insurance by place of work	3,062	3,153	3,536	3,449	3,392	3,363	3,497	+ 4.0	+ 4.4
Net labor and proprietors income by place of work	60,401	62,393	65,227	64,700	64,404	64,497	65,317	+ 1.3	+ 2.1
Plus: Residence adjustment	411	426	437	449	461	473	483	+ 2.1	+ 3.2
Net labor and proprietors income by place of residence	60,812	62,819	65,663	65,148	64,865	64,970	65,800	+ 1.3	+ 2.1
Plus: Dividends, interest, and rent	8,974	9,321	9,627	9,882	10,139	10,523	11,062	+ 5.1	+ 5.2
Plus: Transfer payments	9,171	9,280	9,522	9,829	10,456	10,740	11,162	+ 3.9	+ 3.1
State U.I. benefits	443	365	404	462	433	512	646	+26.2	+10.7
Transfers excluding state U.I.	8,728	8,916	9,118	9,368	10,023	10,227	10,516	+ 2.8	+ 2.8
Personal income by place of residence	78,957	81,420	84,812	84,859	85,460	86,233	88,024	+ 2.1	+ 2.6

SOURCE: Bureau of Economic Analysis, special release.

Midyear Review

(Continued from page 3)

Chrysler people working in Michigan than there were in March. Employment is reduced at Chrysler suppliers, too.

Ford's new small cars, the Escort and Mercury Lynx, are assembled in Wayne, Michigan, and Metuchen, New Jersey. Small engines are made in Dearborn, another plus for Michigan.

In spring 1981, General Motors is planning to introduce its replacement for the sporty Monza. The new J-car will likely be assembled in Lordstown, Ohio, since that is where the Monza is produced, but it also means jobs at several Michigan plants that make parts. More important for Michigan, perhaps, is the expansion of the Hydramatic Division. Components plants opened in Three Rivers and Constantine, Michigan, this summer. A Chevrolet parts plant on Mound Road in Detroit also is being converted to Hydramatic parts production.

Tight money will prolong the depression in the residential building industry. There is unlikely to be much improvement before spring 1981. However, office and factory construction will cushion the shock.

Everything considered, although this state's economy should show considerable improvement during the fall quarter, there is almost no chance of it recovering to its 1979 level of employment before the beginning of the 1982 model production run. The earliest likely date for such recovery is December 1981.

In April 1980, the number of individuals receiving payments of one sort or another from the Michigan Department of Social Services exceeded one million for the first time. More than one in every nine of this state's residents now receives some form of public welfare, that is, aid to dependent children, general assistance, emergency assistance, or food stamps. By June, the number was above 1,050,000, a 24 percent gain over the June 1979 figure. It costs roughly $1.5 billion a year to maintain the current level of welfare payments. When Medicaid is included, the bill comes to about $2.5 billion, split about 50–50 between the federal government and Michigan state and local governments. The totals are almost certain to rise in coming months, even as employment increases, because the job gains will be inadequate. Residents will continue to exhaust their unemployment and Trade Adjustment Act (TRA) benefits. Since 1974, the TRA has provided benefits to workers who can demonstrate job loss as a result of imports.

The Longer Term

In the nation and even more so in this state, capital stock has been decaying since before 1974. Thereafter, it has been a victim of high interest rates and high energy prices. Employers have tended to substitute relatively inexpensive and plentiful labor for capital and energy. Consequently, productivity and real earning power of workers have languished. To remedy that, and regardless of the outcome of elections in November, Washington will develop incentives to shift a larger proportion of our national income from consumption to investment.

Michigan's investment boom, interrupted by the recession, will resume because, if for no other reason, new production facilities will be required to downsize cars and small trucks. This state has a tax program that is attractive to a variety of other kinds of private enterprise, and there are ambitious recruitment programs by the Michigan Office of Economic Development and industrial parks throughout the state.

In August 1982, Volkswagen of America will begin production in a Sterling Heights plant now occupied by the U.S. Army. This operation will mean new opportunities for suppliers in the Detroit area. VW itself could build other factories here, perhaps for stampings or trim.

Many jobs will vanish due to downsizing. Smaller engines require fewer valves and piston rings. Electronic fuel injection requires no carburetor. Spare wheels will be outmoded. Some iron foundries, die casters, and stamping plants will fail. In certain segments, Michigan has cost disadvantages that will not diminish. Fashioning mufflers, tail pipes, and shock absorbers, for example, requires low skill labor. Much of this kind of activity has already been lost to southern states, where labor is cheap.

In short, Michigan is likely to hold its own in share of employment devoted to the design and production of motor vehicles, but there will also be a shift to the higher skill and away from the lower skill segments. This all translates into rapidly increasing productivity and wage rates in Michigan for those with jobs.

In addition to motor vehicles, this state is a major producer of large home appliances. That market will benefit from a high rate of new household formation between now and 1985.

Tourism and conventions are expected to provide a major impetus to the state's economy between now and 1985, with lodging employment gaining by almost one-third. Employment in eating and drinking places is forecast to jump by 40 percent, as this industry serves the city-bound leisure crowd as well as tourists and other travelers. Retail trade, banking, and amusements also will feel the effects of rapidly rising discretionary income in single and two-person households. Some segments of health and medical care will grow as a result of the aging population. Business and legal services also are slated for growth.

Durable goods manufacturing is expected to grow, although slowly, through 1984 and then level off. By then, the present wave of automotive investment will have spent itself, implying a declining market for machine tools, among other things. Rail and water transportation and local transit are declining industries in this state. Employment in air transportation and in trucking and warehousing will not increase, although output will, because of productivity gains. Farm employment will continue to decline, but here, too, output will increase as a result of advancing productivity.

A decline in government employment seems inevitable if for no other reason than that those totals include school teachers and faculty and staff in state-owned institutions of higher education. The government totals also are inflated by including most CETA workers. Much of this government job-creation machinery is certain to be dismantled after recovery from the current recession, particularly since the ranks of untrained youth in the labor force are expected to dwindle between now and 1985.

Given this outlook, Michigan can expect to continue to be a labor exporter during the next decade. Our unemployment rate will likely remain above the national average. The state's welfare rolls will remain uncomfortably high, although below current levels.

Michigan's Lodging Industry

(Continued from page 2)

publicized recession have been relatively limited. Rates should continue to rise at a 12 percent to 15 percent rate, although general increases will be less common as demand softens.

New building activity is still relatively strong in most major markets. Several factors have caused this. The favorable tax status enjoyed by real estate has been significant. Many equity syndications are being undertaken, and institutional investors are being attracted to the lodging industry. Foreign money has been coming into the state, attracted by the political stability of the United States, favorable exchange rates, and the basic soundness of the lodging industry.

Considerable development activity is centered in the state's second-tier metropolitan areas, such as Grand Rapids, Lansing, and Flint. However, due to increasing group demand and obsolescence of some properties, opportunities exist in virtually every market. To encourage development, local governments are offering financial incentives, including assistance in acquiring land, Economic Development Corporation mortgages, partial property tax abatement, Urban Development Action Grants (through the U.S. Department of Housing and Urban Development), and administrative assistance. The last item, which basically means help in circumventing red tape, can be critical, especially since many impediments have been erected by zoning and planning officials, as well as environmental groups. In general, the public and private sectors appear to be learning that it is in their mutual best interest to cooperate.

The limitations on development are the continuing increases in construction costs and lenders' attitudes. Lenders, particularly life insurance companies, have been hard hit by the Federal Reserve's efforts to control inflation and the money supply. Many companies have had to make low interest loans to policyholders, thereby limiting the funds available for development. Lenders are approaching new ventures cautiously. As a result, worthy projects are having a difficult time getting commitments.

There are several other problems. Overall occupancy rates are limited in most major markets by the relatively low level of weekend demand. Michigan has not yet attracted significant urban tourism, which aids weekend occupancy in other markets. The continuing escalation of energy and labor costs is causing difficulty. Also, there is concern about the effect of gasoline shortages on the industry. However, the future still looks promising for the lodging industry, barring cataclysmic economic events.

RETAIL TRADE: ADDENDUM

The April issue on retail trade was prepared before the special report on major retail centers was received. Since it, along with a similar report for 1977, contains data of considerable interest to students of urban economics, some of the highlights are presented here.

A central business district (CBD) is the downtown business area of a central city of a Standard Metropolitan Statistical Area or another city of 50,000 or more in an SMSA. There are 13 CBDs in Michigan; the one in which retail sales grew most rapidly between 1972 and 1977 was Muskegon. That city has a new downtown mall. East Lansing had the second most rapid retail sales growth in its CBD, followed by Ann Arbor and Battle Creek. For Kalamazoo, 1972 data are not available.

The CBDs in Saginaw, Grand Rapids, and Bay City grew little; those in Lansing and Saginaw declined somewhat; and those in Flint and Detroit declined sharply. For Pontiac, the 1972 figures are not available. If they were, they would undoubtedly reveal an even sharper contraction than occurred in Detroit in the volume of business conducted downtown.

In the Detroit CBD, sales at eating places increased by almost 60 percent, compared with 26 percent in the rest of the city. Sales at bars and taverns declined by more than 20 percent both in the CBD and the rest of Detroit. Florists, grocers, and service stations made modest sales gains in the CBD; home furnishings stores posted a 54 percent increase.

Eating places in the Flint CBD experienced a moderate gain (18 percent), whereas drinking places' sales jumped by 73 percent. Sales at food stores were up 10 percent, at service stations, 25 percent.

Grand Rapids CBD bar and restaurant owners witnessed declines in sales, the former by 29 percent, the latter by 19 percent.

Lansing's restaurants in the CBD reported a 15 percent increase in sales.

In Ann Arbor, CBD restaurant sales were up 119 percent, bar and taverns up 48 percent.

The Bay City CBD had an 85 percent increase in restaurant sales, a 14 percent decrease in drinking place sales, and a 95 percent increase in gasoline service station sales.

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CENSUS OF SELECTED SERVICE INDUSTRIES

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

Michigan ranked behind California and New York in the dollar volume of business done by independent, commercial research and development laboratories during 1977, according to the most recent Census of Selected Service Industries published by the Bureau of the Census. The Michigan proportion of the U.S. total was just under 10 percent (Table 1). The figure for California was 27 percent, and for New York, 12 percent. Massachusetts ranked fourth with 9 percent of receipts by commercial establishments primarily engaged in laboratory or other physical research and development on a contract or fee basis. This category excludes testing laboratories but does include independent agricultural research, chemical laboratories, development of computer and related technology, engineering research, food research, and industrial laboratories.

Other service industries in which Michigan's share of national activity is relatively high are passenger car leasing, utility and recreational vehicle rental, packaging and labeling service, bowling alleys, nonmunicipal public golf courses, muffler shops, car washes and automotive services other than repair, automotive glass replacement and repair, and lawnmower, saw, knife, and tool sharpening and repair. Clearly, service industries associated with the automobile are in comparatively heavy demand in this state.

Services in which Michigan is relatively lacking include commercial museums, botanical and zoological gardens, motion picture and tape production for television, amusement parks, carnivals and circuses, producers of legitimate theater, carpet and upholstery cleaning, services allied to motion picture production, interior designing, disinfecting and exterminating, and laundry and garment care. California and New York dominate the performing arts and Michigan is far down on the list of states in this area. However, Detroit is a center for commercial photography, art, and graphics, and for advertising agencies, because of promotional activities of the automobile companies.

CENSUS OF SELECTED SERVICE INDUSTRIES

In spring 1978, all large and medium size businesses in this country, and those known to operate more than one establishment, regardless of size, were queried by the Bureau of the Census. Small firms were either included in a sample or their 1977 operating statistics were developed from administrative records at the Social Security Administration and the Internal Revenue Service.

Selected service industries include establishments subject to the federal income tax that provide lodging, personal, business, automotive, miscellaneous repair, amusement, legal, engineering and architectural, and surveying services. Dental laboratories also are included, but other health providers (dentists, physicians, hospitals, and so forth) are not. Also excluded are educational services, social services, membership organizations (including religious), accountants and bookkeepers, private households, and noncommercial museums, art galleries, and botanical and zoological gardens.

Each establishment was classified on the basis of its major activity. For example, a place where men's hair is cut is a barber shop even though

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TABLE 1
Comparative Michigan Selected Service Industry Statistics: 1972 and 1977

Kind of business	*Michigan receipts as a percentage of U.S. receipts*		*Michigan, number of establishments*		*Michigan receipts ($000,000)*		*Percentage increase in receipts 1972–1977*		*Michigan, mid-March employment*	
	1972	*1977*	*1972*	*1977*	*1972*	*1977*	*Michigan*	*U.S.*	*1972*	*1977*
Passenger car leasing	n.a.	10.7	57	57	25.1	138.6	452.2	n.a.	216	417
Commercial research & development labs	n.a.	9.8	n.a.	62	n.a.	197.9	n.a.	n.a.	n.a.	2,168
Utility & recreational vehicle rental	n.a.	9.7	32	28	2.0	5.4	170.0	n.a.	69	69
Packaging & labeling service	n.a.	8.5	35	37	17.4	32.5	86.8	n.a.	682	883
Bowling alleys	8.8	8.4	794	467	95.4	138.1	44.9	51.2	6,673	8,928
Public golf course, exc. municipal	7.5	8.0	194	210	19.3	32.8	69.5	59.4	483	587
Exhaust system service (muffler shops)	6.8	7.5	68	104	11.7	27.4	135.1	115.0	240	503
Automotive services, except repair	7.3	7.2	1,056	1,155	54.9	100.0	82.2	84.9	4,128	4,030
Glass replacement & repair	7.0	6.4	115	120	18.8	28.8	53.3	69.6	574	700
Lawnmower, saw, knife, tool sharpening & repair	6.2	6.2	66	58	6.2	9.8	57.1	55.9	242	288
Diaper service	n.a.	6.1	11	9	2.2	4.2	90.9	n.a.	134	139
Commercial photography, art, & graphics	5.0	5.9	224	283	44.5	101.5	128.3	95.0	1,696	2,367
Concession operators of amusement devices, rides	6.4	5.9	36	38	7.2	9.6	32.9	44.6	187	120
Advertising agencies	9.1	5.3	223	233	112.5	167.3	48.7	73.0	3,755	3,607
Window cleaning	6.9	5.3	76	60	4.9	4.1	− 16.8	8.2	503	282
Welding repair	4.6	5.3	159	179	17.1	37.7	121.3	92.6	685	1,112
Sign painting shops	3.7	5.2	59	39	3.9	6.9	78.6	26.5	159	209
Top & body repair shops	4.8	5.1	1,190	1,425	85.9	202.4	135.6	84.3	3,190	4,744
Paint shops	4.9	5.1	109	129	11.3	22.4	97.4	87.7	464	656
Radiator repair	3.8	5.1	66	78	5.9	14.4	142.4	80.9	247	335
Coin-operated laundries & dry cleaning	4.6	5.0	1,119	834	40.1	53.9	34.4	23.2	2,782	2,438
Motion picture production, except for TV	n.a.	4.8	26	30	12.9	25.2	n.a.	n.a.	280	317
Industrial laundries	5.5	4.6	62	50	42.8	53.3	24.7	46.7	2,662	2,152
Linen supply	4.3	4.6	52	55	40.2	57.7	43.4	34.6	2,643	2,170
Blueprinting & photocopying services	4.3	4.6	56	84	9.7	18.2	88.5	74.9	435	518
Transmission repair shops	4.9	4.6	109	215	10.5	30.3	187.4	202.8	390	812
Watch, clock, & jewelry repair	4.7	4.6	54	60	4.2	7.2	70.3	76.0	158	169
Racing, including track operation	6.0	4.6	109	70	60.2	71.7	19.2	54.0	883	747
Power laundries, family & commercial	3.2	4.5	105	94	21.4	27.3	27.2	− 8.6	2,220	1,661
Barber shops	4.7	4.5	3,880	2,747	41.2	44.7	8.5	12.1	934	765
Funeral service & crematories	4.4	4.4	777	770	98.5	125.0	26.9	27.4	2,877	2,774
Stenographic services	3.0	4.3	86	120	7.3	16.1	119.5	85.5	517	714
Temporary help supply services	3.5	4.3	113	179	31.6	99.9	215.7	153.1	6,016	12,674
Auto electrical & fuel system service	4.3	4.3	63	75	5.8	10.8	86.4	86.4	223	298
Dental laboratories	4.1	4.3	336	389	23.6	40.8	73.0	65.4	1,113	1,367
Sporting & recreational camps	3.8	4.2	500	356	10.1	11.7	15.8	NC	522	356
Photographic studios, portrait	4.4	4.2	1,166	1,286	33.6	47.4	41.2	54.3	1,460	1,150
Detective agencies & protective services	4.3	4.2	251	269	61.4	110.3	79.5	84.3	9,543	12,441
Truck rental	n.a.	4.2	37	53	23.1	33.8	46.3	n.a.	338	366
Drive-in theaters	4.1	4.2	106	103	16.8	18.4	9.3	6.5	909	417
Dry cleaning plants	4.3	4.1	1,151	831	25.7	78.0	3.0	7.7	7,607	5,195
Hotels, fewer than 25 rooms	3.6	4.0	136	145	6.6	7.5	13.3	3.0	501	402
Beauty shops	4.3	4.0	6,784	6,780	128.7	170.8	32.7	41.3	11,775	11,354
Outdoor advertising services	3.0	4.0	43	28	12.3	21.4	74.3	29.9	506	423
Brake, front end & wheel alignment	3.1	4.0	81	79	7.5	15.4	106.2	59.2	287	390
Misc. personal service	4.0	3.9	1,969	2,957	45.4	80.9	78.4	22.6	3,789	5,226
Membership sports & recreation clubs	n.a.	3.9	n.a.	195	n.a.	45.3	n.a.	n.a.	n.a.	1,910
Adjustment & collection agencies	2.0	3.7	173	162	16.2	24.5	51.2	n.a.	1,063	1,243
Armature rewinding shops	4.0	3.7	90	90	24.2	47.3	95.3	108.7	810	1,011
Direct mail advertising services	3.5	3.6	81	65	18.5	30.3	63.7	56.8	1,507	1,032
Photo finishing laboratories	2.6	3.6	63	83	30.8	67.1	118.0	60.7	1,181	1,911
Sewer & septic tank cleaning services	5.5	3.6	68	53	6.7	7.8	15.2	75.4	210	198
Engineering, architectural, & surveying services	3.9	3.6	2,207	2,405	298.3	527.8	76.9	94.2	12,542	14,043
Radio & TV repair shops	3.8	3.5	1,255	1,119	31.5	43.3	33.3	43.8	1,259	1,327
Motion picture theaters	3.4	3.5	256	238	48.2	74.3	54.2	51.9	3,572	3,148
Refrigeration & air conditioning shops	2.6	3.4	88	89	7.8	18.8	139.2	81.6	250	404
Reupholstery & furniture repair	5.2	3.4	781	754	11.8	17.1	39.1	54.3	659	706
Radio, TV, & publisher's advertising	2.4	3.3	44	49	7.6	14.6	91.7	43.8	219	249

TABLE 1 (Cont.)
Comparative Michigan Selected Service Industry Statistics: 1972 and 1977

	Michigan receipts as a percentage of U.S. receipts		*Michigan, number of establishments*		*Michigan receipts ($000,000)*		*Percentage increase in receipts 1972-1977*		*Michigan, mid-March employment*	
Kind of business	*1972*	*1977*	*1972*	*1977*	*1972*	*1977*	*Michigan*	*U.S.*	*1972*	*1977*
Truck leasing, exc. finance leasing	n.a.	3.3	76	91	49.1	76.5	55.8	n.a.	620	720
Electrical & electronic repair shops	3.4	3.3	134	186	19.9	41.8	109.9	114.6	911	1,247
Legal services	3.8	3.3	4,723	5,562	409.8	622.8	52.0	70.9	9,342	13,312
Water softening services	n.a.	3.2	82	86	13.4	17.3	29.1	n.a.	536	467
Diesel repair shops	2.8	3.2	40	63	6.2	19.4	210.9	170.2	273	414
Dance halls, studios, & schools	2.6	3.1	76	95	2.3	5.1	131.5	75.0	316	467
Trailer parks & campsites for transients	3.4	3.1	447	404	9.7	14.0	44.3	60.7	129	92
Cleaning & maintenance services	3.5	3.1	728	737	61.0	98.2	60.9	86.9	9,752	11,358
Telephone answering services	2.8	3.1	67	76	5.7	11.3	98.4	80.7	659	867
General automotive repair shops, exc. diesel	3.3	3.1	775	879	76.7	123.2	60.6	72.0	2,663	3,297
Theatrical services	2.2	3.1	35	33	5.8	14.7	155.6	87.4	111	209
Billiards & pool establishments	5.0	3.1	316	83	5.7	3.8	− 34.4	5.5	215	203
Professional sports clubs, managers, promoters	3.4	3.1	18	19	17.4	29.2	68.1	82.7	376	642
Parking lots	3.2	3.0	304	209	13.3	16.0	20.1	27.4	835	629
Consumer credit reporting agencies	n.a.	2.9	42	43	8.9	9.6	7.9	n.a.	814	536
Shoe repair, shoe shine, & hat cleaning shops	2.9	2.8	365	242	6.1	6.7	8.7	13.6	246	180
Coin-operated amusement devices	2.3	2.8	61	78	7.0	13.8	98.0	63.7	235	383
Computer & data processing services	2.3	2.7	274	499	80.4	204.4	152.8	120.2	3,457	5,890
Commercial testing labs	1.6	2.7	48	64	6.1	18.8	208.6	74.6	279	522
Motels, motor hotels, & tourist courts	3.1	2.5	1,945	1,549	164.0	202.0	23.2	48.0	11,170	10,451
Tire retreading & repair shops	2.1	2.5	55	54	10.0	17.8	78.0	46.2	307	399
Management & consulting services	2.4	2.4	483	636	78.1	147.4	99.0	87.5	3,230	5,536
Farm machinery & equipment repair shops	2.3	2.4	16	21	1.7	3.3	89.5	78.6	72	81
Garment pressing	3.5	2.3	137	57	6.3	3.0	− 57.7	− 27.4	483	196
Commercial recreational amusements	2.1	2.3	386	362	26.0	47.9	84.3	76.0	1,753	2,999
Hotels, 25 rooms or more	1.9	2.2	232	220	86.2	216.0	150.7	111.5	6,792	13,487
Employment agencies	4.2	2.2	176	184	21.2	20.5	− 3.3	84.2	1,433	1,012
Parking structures	2.9	2.2	20	26	8.4	10.0	17.7	57.0	250	277
Public relation services	2.4	2.1	53	64	6.8	10.1	88.7	67.2	221	276
Motion picture film exchanges	n.a.	2.1	20	23	20.8	43.6	109.6	n.a.	177	127
Equipment rental & leasing services	4.9	2.0	664	878	109.6	164.2	48.6	115.3	1,958	2,435
Passenger car leasing, exc. finance leasing	n.a.	2.0	68	62	21.9	37.1	69.4	n.a.	579	685
Laundry & garment services	n.a.	1.9	n.a.	32	n.a.	2.0	n.a.	n.a.	n.a.	127
Disinfecting & exterminating services	1.5	1.4	61	78	7.5	12.7	69.2	78.2	549	557
Interior designing	4.5	1.3	43	34	10.8	4.8	− 55.8	47.1	270	123
Service allied to motion picture production	n.a.	1.3	15	14	6.4	9.7	51.6	n.a.	172	199
Carpet & upholstery cleaning	3.3	1.2	133	138	5.8	9.0	57.0	57.5	764	511
Carnivals, circuses, & fairs	2.8	.9	36	10	4.5	1.8	− 59.1	22.5	56	10
Producers of legitimate theater	n.a.	.7	n.a.	17	n.a.	2.1	n.a.	n.a.	n.a.	57
Amusement parks	.7	.5	18	25	3.0	5.6	85.3	150.7	72	92
Motion picture & tape production for TV	n.a.	.2	n.a.	9	n.a.	2.2	n.a.	n.a.	n.a.	37
Commercial museums, botanical & zoological gardens	n.a.	.1	n.a.	8	n.a.	——	n.a.	n.a.	n.a.	12
Total[a]	3.6	3.6	56,080	60,550	3,783.7	6,388.8	68.8	70.3	186,018	218,851

SOURCE: Bureau of the Census, *1977 Census of Selected Service Industries, Geographic Area Series, Michigan* (Washington, D.C.: 1979), SC77-A-23, Table 1; *1972 Census of Selected Service Industries, Geographic Area Series, Michigan* (Washington, D.C.: 1974), SC72-A-23; and similiar documents for the United States.

a. Includes items for which separate industry data were not available.

n.a. not available.

it might also be a retailer of shampoo, combs, and hairbrushes.

Receipts include payments received from customers for services rendered and for merchandise sold during 1977. Employment includes full- and part-time workers who were at their jobs or were on paid holiday, vacation, or sick leave during the pay period including 12 March 1977. Employment does not include proprietors and partners in unincorporated businesses.

Nevada, Hawaii, and New York are the top ranked states in the relative importance of selected service industries as a group. If the District of Columbia were a state, it would rank second. Mississippi, West Virginia, and Indiana are at the bottom of the list. Michigan tied with Oklahoma for 34th place in 1977. In 1972, Michigan was 27th in selected services receipts as a percentage of personal income. (Economic censuses are conducted twice each decade.)

In number of inhabitants per selected service establishment, Michigan ranked fourth in 1977 and 1972. States where these establishments are distributed more thinly

(Continued on page 6)

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	41.1	39.5	39.3 (July)
Average weekly hours, U.S.	39.9	39.4	38.9 (July)
Average hourly earnings, Michigan ($)	8.79	9.35	9.32 (July)
Average hourly earnings, U.S. ($)	6.72	7.20	7.28 (July)
U.S. motor vehicle production (units)	796,470	634,968	507,386 (July)
Michigan electricity usage (mil. kwh.)	5,799	5,917	5,698 (Apr.)
Industrial (mil. kwh.)	2,729	2,550	2,453 (Apr.)
Residential (mil. kwh.)	1,741	1,950	1,806 (Apr.)
Raw steel production:			
Michigan (000 net tons)	968	365	437 (July)
United States (000 net tons)	11,821	7,501	6,796 (July)
Consumer price index (1967 = 100)			
Detroit area	219.5	256.7	253.7 (July)
United States	218.9	247.6	247.8 (July)
U.S. wholesale price index (1967 = 100)	236.9	265.2	269.8 (July)
Michigan farm prices received index (1967 = 100)	233	233	240 (July)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Edison Electric Institute.

Contracts for Future Building, First 7 Months: 1979 and 1980

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1979	1980	Percentage change	1979	1980	Percentage change	1979	1980	Percentage change
Ann Arbor	52,706	68,847	+ 31	47,800	30,938	− 35	100,508	99,785	− 7
Battle Creek	16,192	17,451	+ 8	23,866	8,187	− 66	40,058	25,638	− 36
Bay City	5,426	14,960	+175	8,786	13,640	+ 55	14,212	28,600	+101
Detroit	603,427	557,804	− 8	690,205	312,593	− 55	1,293,632	870,397	− 33
Flint	37,234	51,558	+ 38	57,098	20,472	− 64	94,332	72,030	− 24
Grand Rapids	128,130	126,641	− 1	114,079	86,171	− 24	242,209	212,812	− 12
Jackson	14,463	36,607	+153	10,688	5,894	− 45	25,151	42,501	+ 69
Kalamazoo–Portage	23,492	23,768	+ 1	40,494	23,214	− 43	63,986	46,982	− 27
Lansing–East Lansing	52,338	86,052	+ 64	98,844	49,412	− 50	151,182	135,464	− 10
Muskegon–Norton Shores–Muskegon Heights	12,356	8,436	− 32	17,344	17,529	+ 1	29,700	25,965	− 13
Saginaw	22,271	24,341	+ 9	33,761	12,723	− 62	56,032	37,064	− 34
Michigan	1,105,946	1,090,370	− 1	1,476,980	772,260	− 48	2,582,926	1,862,630	− 28
United States	29,294,400	29,594,400	+ 1	45,530,900	32,832,300	− 27	74,825,300	62,426,700	− 17

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1979 and 1980 figures for nonbuilding construction contracts were $630,976,000 and $390,107,000 respectively, or a decrease of 38 percent. U.S. figures for nonbuilding construction contracts were $29,762,300,000 and $15,136,800,000 or a decrease of 49 percent.

Quarterly Motor Vehicle Employment and Assembly

	1977	1978				1979				1980	
Item	4	1	2	3	4	1	2	3	4	1	2
EMPLOYMENT[a]											
Checker											
Michigan	1,166	1,117	1,118	1,084	1,140	1,207	1,194	1,182	1,099	982	803
Chrysler											
Michigan	84,047	78,744	82,799	75,187	81,664	75,316	70,238	58,182	55,456	47,273	43,235
United States	137,286	131,066	136,158	125,989	135,997	125,899	118,532	99,754	98,228	86,341	78,908
Ford[b]											
Michigan	124,098	124,187	127,148	126,300	135,377	132,298	129,526	117,630	111,790	104,321	92,458
United States	233,911	224,635	239,517	233,314	253,536	245,253	240,054	211,763	196,038	181,595	160,226
General Motors											
Michigan	280,000	264,000	278,000	267,000	289,000	295,000	296,000	291,000	288,000	267,000	237,000
United States	624,000	588,000	619,000	594,000	643,000	644,000	650,000	582,000	602,000	561,000	499,000
ASSEMBLY											
Dearborn	37,107	40,230	70,007	39,072	83,017	96,572	92,774	85,970	68,819	65,971	70,823
Detroit	126,739	130,969	140,723	54,857[c]	89,563[c]	130,475[c]	113,866[c]	56,399[c]	78,055	57,044[R]	40,016
Detroit (truck)	7,577	7,587	11,443	11,142	30,753[c]	33,693[c]	28,503[c]	12,861[c]	16,534	14,812[R]	5,865
Flint	100,181	93,380	104,042	76,157	109,192	115,405	110,135	56,914	90,222	69,179	65,568
Flint (truck)	103,976	107,414	116,436	103,549	104,839	114,846	95,075	60,985	75,541	70,123	19,975
Hamtramck	72,429	56,098	86,545	56,808	54,230	44,901	62,806	15,345	30,134	1,031[c]	c
Kalamazoo	1,095	1,361	1,036	809	1,019	1,134	1,268	1,203	1,161	770	810
Lansing	99,322	93,080	110,381	62,327	116,726	130,644	130,363	72,684	96,143	104,913	82,558
Pontiac	83,219	75,104	87,334	61,666	82,652	91,712	85,977	46,578	61,082	50,974	30,102
Pontiac (bus & truck)	40,474	55,041	67,569	61,741	72,398	77,144	73,922	51,628	42,135	33,850	24,376
Warren (bus & truck)	70,738	76,322	94,415	72,181	84,504	76,365	48,873	5,027	19,043	14,783[R]	28,537
Wayne	67,939	76,242	76,599	63,214	55,607	50,477	46,765	34,081	28,800	27,840	37,401
Wayne (truck)	50,706	53,462	56,436	48,390	52,388	56,052	51,994	21,305	34,256	25,355	7,751
Wixom	43,677	42,915	47,639	36,508	46,902	51,132	36,527	20,013	32,604	8,724	6,896
Ypsilanti	62,270	60,220	73,733	57,178	38,891	38,797	75,420	73,508	70,507	84,598	83,147
Total Michigan											
Passenger car	693,978	669,599	798,039	508,596	654,346	751,250	755,901	462,695	557,527	471,044[R]	417,321
Bus and truck	273,471	299,826	341,141	297,003	368,325	358,100	298,367	151,806	187,509	158,923[R]	86,504
Total United States											
Passenger car	2,306,400	2,267,474	2,656,507	1,850,701	2,398,411	2,411,307	2,482,907	1,655,546	1,884,756	1,783,732	1,632,826
Bus and truck	850,989	865,427	1,019,266	851,996	982,232	1,024,655	916,996	529,092	564,118	499,525	350,607
Total Canada											
Passenger car	282,256	289,695	345,842	229,593	297,157	307,823	281,806	171,427	227,966	225,969	228,428
Bus and truck	171,998	171,127	185,031	120,199	180,355	200,162	190,698	107,988	135,532	146,015	136,314

SOURCE: Ward's *Automotive Reports;* Motor Vehicle Manufacturers Association of the United States, Inc., P-I report; and companies.

a. Average monthly wage and salary employment of companies with assembly plants in Michigan; includes nonautomotive.

b. Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

c. Chrysler's Jefferson Avenue plant has been converted to truck production. The plant had no production during July and August and began assembling trucks during the latter part of September. The Hamtramck plant closed 4 January 1980.

R. revised.

Census of Selected Service Industries

(Continued from page 3)

among the population are Alabama, Mississippi, and West Virginia. The frequency is greatest in the District of Columbia, Nevada, and Wyoming.

Receipts per establishment were highest in Nevada, the District of Columbia, and Hawaii. They were lowest in South Dakota, Maine, and Montana. Michigan ranked tenth.

KIND OF BUSINESS

There are more beauty shops than any other kind of service establishment in both Michigan and the nation. However, the growth of receipts for this industry was well below the overall average between 1972 and 1977. Second and third most numerous were legal services and barber shops. Barbering is a very slow-growth industry in terms of receipts; the number of shops has dropped sharply. Growth in the legal professions matched that for services overall nationally but was below the average in this state. The number of law offices rose both here and nationally. In total receipts, legal services is the largest of the selected service industries.

Fastest growing of the selected service industries here were most categories of automotive repair, automotive leasing, computer and data processing services, commercial testing laboratories, management and consulting services, theatrical services, stenographic services, temporary help supply services, large hotels, nonautomotive welding services, commercial photography, art and graphics, photofinishing laboratories, refrigerator and air conditioning repair shops, coin-operated amusement devices, and telephone answering services. Declining service industries were carnivals, circuses, and fairs, interior designing, employment agencies, garment pressing, billiard and pool halls, and window cleaners. If the dollar figures in Table 1 could be adjusted for increases due only to prices, they would reveal a number of other service industries whose real output has declined.

Industries consisting predominantly of small businesses are dance studios, pool halls, reupholstery shops, parking lots, window cleaning, shoe repair shops, barber shops, beauty shops, carpet cleaners, pressing shops, dry cleaning plants, coin-operated laundries, sporting and recreational camps, trailer parks, and small hotels. Among these, only dance studios experienced above average growth.

Repair services on the whole, both automotive and other, experienced above average growth. Many industries in this broad category also have relatively small establishments, although not as small as those listed in the preceding paragraph. Repair services seem to offer the best opportunity for people interested in operating a small business.

The group including business services has relatively few small establishments in comparison with other service-type industries and is the fastest growing.

Clearly, the trend in services is toward larger size. It should be mentioned, however, that even in what is perhaps the most concentrated of the service industries, commercial research and development laboratories, the average establishment is far smaller than, say, the typical department store. In other words, small size still is typical of service industries as a group.

EMPLOYMENT OPPORTUNITIES

Automotive repair shops of all kinds experienced comparatively greater employment growth than all of the selected service industries taken together, themselves among the rapid-growth sectors of Michigan's and the nation's economy. Automotive repair also offers better than average paying jobs; average earnings were $11,556 in 1977 compared with $9,409 for all selected service industries. (See Table 2.) Welding, refrigeration and air conditioning repair, electrical repair, and armature rewinding also had above average growth and earnings.

Among business services, Michigan job growth and earnings were best in computer and data processing services, commercial photography, commercial research and development laboratories, commercial testing laboratories,

TABLE 2
Payroll per Employee and Employment Growth in Selected Service Industries, Michigan and the United States: 1972–1977

	Payroll per employee, 1977		*Employment growth, 1972–1977*	
Kind of business	*Michigan*	*United States*	*Michigan*	*United States*
Hotels, motels, trailer parks, and camps, total	$5,076	$5,663	29.7	24.7
Personal services, total	6,490	6,016	−10.5	− 6.8
Advertising	17,059	16,169	− 4.7	− 6.5
Services to dwellings and other buildings	5,045	5,291	12.9	27.8
Computer and data processing services	12,889	13,898	70.4	59.9
Management and consulting services	11,416	13,502	71.4	47.5
Public relations services	15,170	15,101	24.9	22.2
Equipment rental and leasing services	15,323	12,460	24.4	43.4
Direct mail advertising services	9,468	8,752	−31.5	− 5.4
Blueprinting and photocopying services	9,938	9,221	19.1	11.0
Stenographic and reproduction services	10,497	8,822	38.1	28.1
Commercial photography, art, and graphics	16,217	12,783	39.6	31.2
Employment agencies	10,228	8,537	−29.4	44.5
Temporary help supply services	5,675	5,138	110.7	85.0
Commercial research and development laboratories	24,099	17,374	119.9	n.a.
Commercial testing laboratories	15,036	12,199	87.1	12.2
Detective agencies and protective services	5,729	5,708	30.4	32.1
Photofinishing laboratories	10,154	8,128	61.8	44.8
Sign painting shops	11,617	9,182	31.4	−12.0
Interior designing	8,602	11,541	−54.4	9.5
Telephone answering services	6,276	5,305	31.6	25.6
Business services, total	9,432	9,076	34.2	30.6
Automotive repair shops	11,556	9,769	43.4	33.0
Automotive rental and leasing	13,118	11,053	23.9	20.4
Automobile parking	6,036	6,238	−16.5	− 9.2
Other automotive services	6,387	5,566	− 2.4	5.3
Automotive repair, services, and garages, total	10,445	9,222	25.3	23.1

TABLE 2 (Cont.)
Payroll per Employee and Employment Growth in Selected Service Industries, Michigan and the United States: 1972–1977

	Payroll per employee, 1977		*Employment growth, 1972–1977*	
Kind of business	*Michigan*	*United States*	*Michigan*	*United States*
Radio and television repair shops	10,038	9,096	5.4	5.9
Refrigeration and air conditioning repair shops	13,463	11,982	61.6	31.6
Electrical and electronic repair shops	11,744	11,409	36.9	31.9
Reupholstery and furniture repair shops	7,370	7,110	7.1	15.9
Watch, clock, and jewelry repair	8,166	8,112	7.0	35.5
Welding repair	12,076	10,479	62.3	38.1
Armature rewinding shops	15,314	13,622	24.8	33.5
Farm machinery and equipment repair shops	12,012	9,163	12.5	23.0
Lawnmower, saw, knife, and tool sharpening and repair	10,285	9,374	19.0	18.6
Sewer and septic tank cleaning services	13,793	11,357	− 5.7	38.3
Miscellaneous repair services, total	11,743	10,717	28.3	36.0
Motion picture production, distribution, and services	16,846	15,578	−20.2	36.7
Motion picture theaters	3,992	4,036	−11.9	− 8.3
Drive-in motion picture theaters	7,547	4,517	−54.1	−26.5
Theatrical services	15,134	12,071	88.3	12.4
Billiards and pool establishments	3,764	4,116	− 5.6	−21.0
Bowling alleys	4,231	4,555	33.8	16.5
Dance halls, studios, and schools	3,861	3,853	47.8	40.4
Professional sports clubs, managers, and promoters	21,731	24,919	70.7	1.2
Racing, including track operations	19,406	9,059	−15.4	14.8
Public golf courses, exc. municipal	15,317	8,051	21.5	20.4
Coin-operated amusement devices	8,021	7,983	63.0	42.9
Amusement parks	16,848	9,527	27.8	81.5
Concession operators of amusement devices and rides	11,367	8,323	−35.8	13.0
Carnivals, circuses, and fairs	26,063	8,425	−71.4	−28.5
Amusement and recreation services, total	6,535	7,984	− 1.7	1.1
Dental laboratories, total	11,406	10,296	22.8	19.4
Legal services, total	15,943	13,307	42.5	46.5
Engineering, architectural, and surveying services, total	19,422	16,862	12.8	27.5
SELECTED SERVICES, TOTAL	9,409	8,845	17.7	19.5

SOURCE: Bureau of the Census, *1977 Census of Selected Service Industries, Geographic Area Series, Michigan* (Washington, D.C.: 1979), SC77-A-23, Table 3; and *1972 Census of Selected Service Industries, Area Statistics, United States* (Washington, D.C.: 1980), SC77-A-52, Table 3.

sign painting shops, public relations, and management and consulting services.

Dental laboratories, law firms, professional sports, public golf courses, and theatrical services also experienced above average employment growth and pay levels.

Large hotels, temporary help supply services (such as Kelly Girl and Manpower), detective agencies, telephone answering services, photofinishing laboratories, dance halls, and bowling alleys added many workers, but at comparatively low pay.

Small lodging establishments, motion picture theaters and distributors, car washes, parking lots, interior designing, and personal services exhibited both employment declines and low pay. Personal services include barber and beauty shops, undertakers, photographic (portrait) studios, garment services such as dry cleaning and laundering, and so forth.

COUNTY RANKINGS

Mackinac, Emmet, and Otsego counties are tourist oriented, with a heavy emphasis on lodging. That is why they are the top three counties in Michigan in the relative importance of selected service industries. Oakland owes its fourth place to its many business services. Grand Traverse is both a tourist-convention center and the business hub of northern Michigan. Services are a major underpinning, and they are well diversified. Jackson is relatively high ranking because it hosts Commonwealth Associates, a nuclear power engineering and consulting firm.

Adjusted for population, selected service establishments are most plentiful in Roscommon, Mackinac, Emmet, Grand Traverse, Cheboygan, Montmorency, Otsego, Leelanau, Benzie, and Crawford counties. Selected service establishments are smallest in size, on average, in Oscoda, Montmorency, Keweenaw, Newaygo, Roscommon, Presque Isle, Lake, Missaukee, Alger, and Tuscola counties. For the most part, these data reflect the small-business, tourism orientation of northern Michigan.

Generally, selected service industries are least important in rural counties in southern Michigan. The Thumb area (Tuscola, Lapeer, Huron, and Sanilac) is especially lacking in services.

Adjusted for population, selected service establishments are least plentiful in Monroe, Clinton, Genesee, Barry, Marquette, Wayne, Mecosta, Newaygo, Isabella, and Saginaw counties. Receipts per selected service establishment are greatest in Oakland, Wayne, Jackson, Macomb, Washtenaw, Kent, Kalamazoo, Saginaw, Ingham, and Genesee counties, that is, in the population centers.

CONCLUDING REMARKS

Both in Michigan and in the United States in general, selected service industries' importance slipped slightly between 1972 and 1977, reflecting the declining personal services industries. The erosion in personal services was somewhat greater here. Also, Michigan lost jobs in amusement and recreation services in the face of a small national increment. We gained at less than the national rate in legal services, repair (nonautomotive) services, and especially in architectural and engineering services. To provide jobs for our college graduates as well as other skilled workers, we will need to look to areas such as these and to new ones, such as waste management and detoxification, during the decade of the 1980s, particularly after mid-decade when the reindustrialization of Michigan's automotive industry will have largely been accomplished.

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